

Special Collector's Issue

Vol. 26 No. 5 September/October 2003 The Journal of the American Homebrewers Association

ZYMURGY

FOR THE HOMEBREWER AND BEER LOVER

The Beauty of Beer

Clearing
the Haze

Judging
& Appearance

Colorful
Chemistry

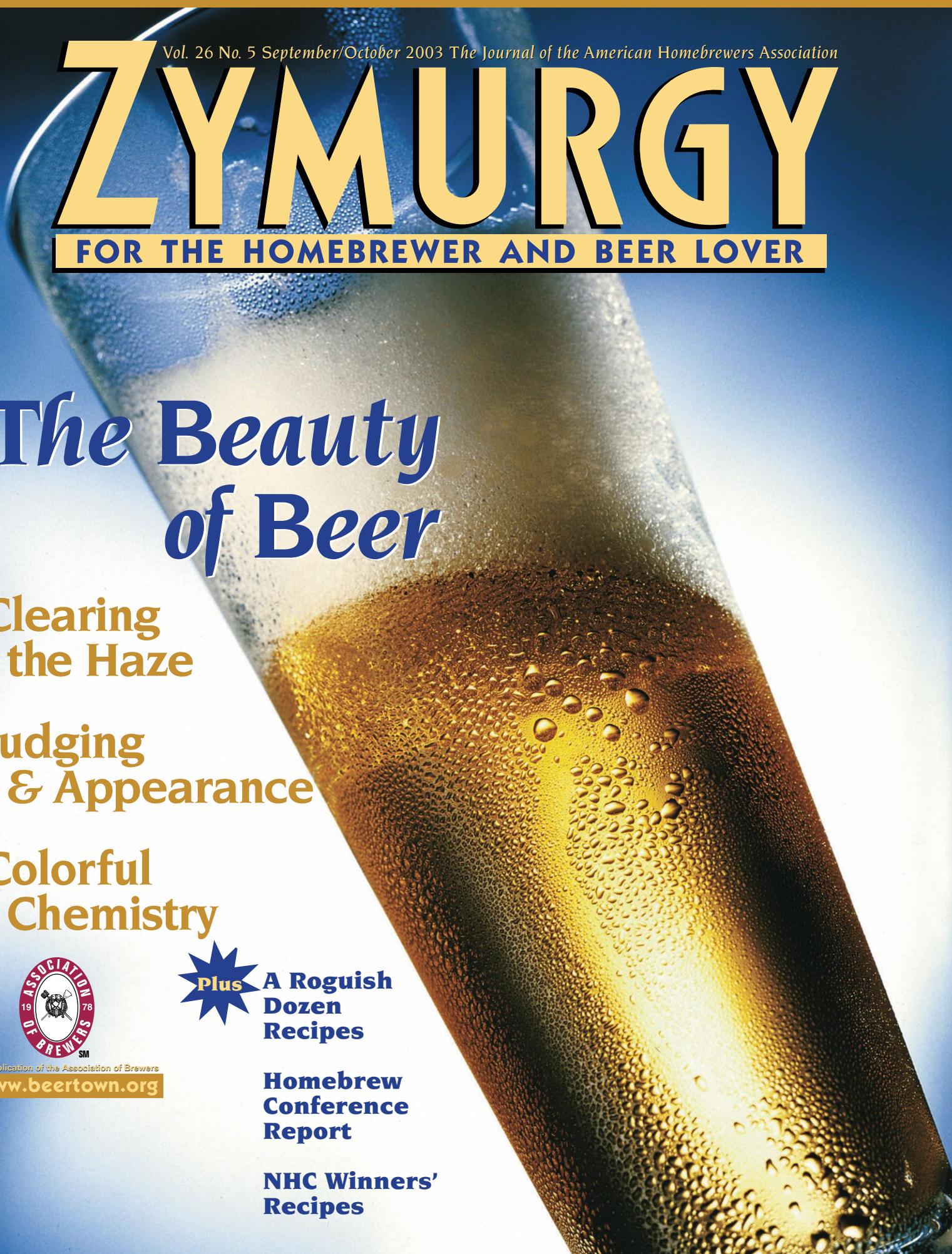


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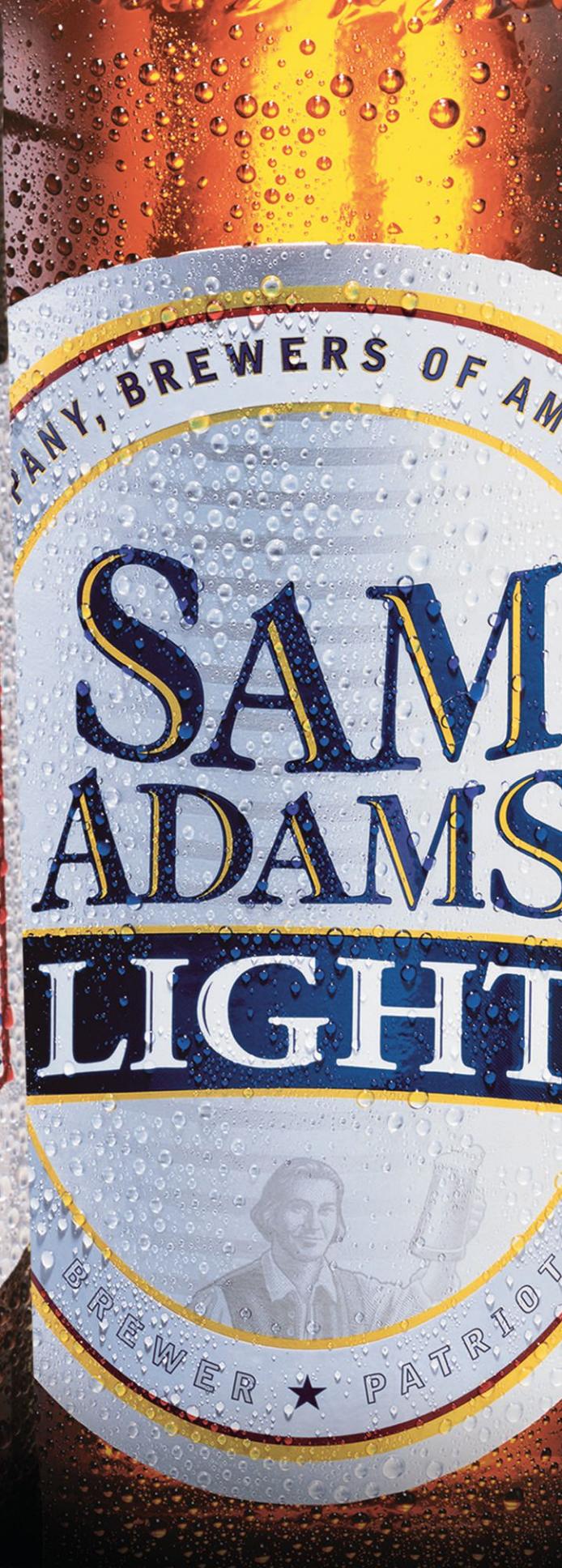
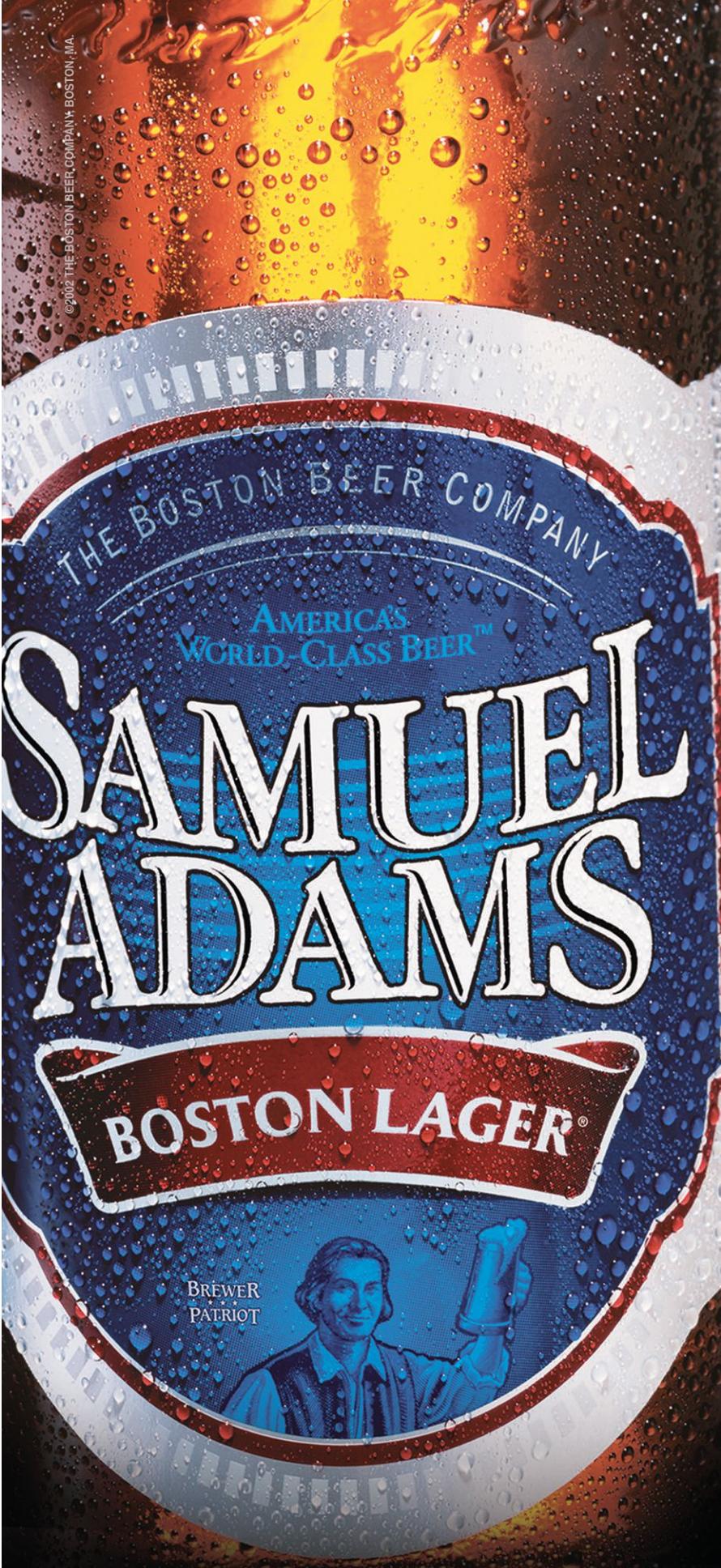
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ZYMURGY®

Zymurgy \zī'mər jē\ n: the art and science of fermentation, as in brewing.

A TASTE FOR COLOR

In all respects, beer color is a slippery thing. Brewers quantify it with a single number and yet not all 10 SRM beers look the same. And just how do you get from malt color to beer color in some meaningful way? Our man of beer arts and sciences has the answers.
By Randy Mosher

20

I CAN SEE CLEARLY NOW: WHAT IS BEER HAZE AND WHY DO WE CARE?

American craft beers often display a bit of haze and may look downright muddy. But as homebrewers, we want our friends and fellow brewers to be impressed with our beers, and a nasty haze can make a bad first impression. Here's the lowdown on clarifying the situation.

By John Palmer

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NATIONAL HOMEBREWERS CONFERENCE WRAPUP

Man, oh man, did we have fun. Read, check out the photos and mark your calendars for next year's shindig.

By the Zymurgy Staff

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THAT'S A GOOD LOOKING BEER!

From neighborhood punters to worldly beer judges, people drink with their eyes. A veteran judge and brewer examines the link between beer appearance and flavor with thoughts about what drinking eyes may perceive.

By Mark Tumarkin

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ROGUE ALE BREWERY: PIRATE OF THE AMBER WAVES

We had so many recipes from top brewers to cram into our July-August issue that we ran out of room. Here's another dozen taste treats from that ruffian of the Pacific Northwest.

By Amahl Turczyn Scheppach

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QUICK RECIPE GUIDE

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Rogue Hazelnut Brown Nectar	.49	European Dark Lager	.58	Herb & Spice Mead and Braggot	.64
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American Lager	.53	Stout	.59	Sandra's Sly and Skinny Wit Bier	.66



THE EYES LOVE IT.



THE MOUTH AGREES.



We're talking total agreement of the senses here. Which shouldn't be surprising, given AmberBock's rich, full flavored taste and unexpected smoothness. Isn't it time for a serious beer that tastes as good as it looks? **Rich in color. Smooth in taste.**

BY PAUL GATZA

Fall Brewing Season

As we wrap up the summer, many of us will head into another fall brewing season. Lots of brewers return to their local homebrew supply shops in September and October to kick off batches for fall socializing and the holiday season. This is the time of year when the newly picked and dried hops arrive at your shop, and enthusiasm starts anew for brewers and their clubs. My fall brewing calendar includes an English-style mild, an ordinary bitter, a mead and perhaps another rendition of the Old Pumpkin Ale.

This issue of *Zymurgy* mailed August 15. This is right around the time in my hometown of Sunshine, Colo. that we start picking the old miners' hops that have been growing around the area for the past 100-plus years. We use these hops more for the fun of it and good karma in our brewing than for the bitterness, flavor or aroma attributes. My limited research leads me to believe that they are likely of the Cluster variety that prevailed throughout the West in the late 1800s. We train some of the hops on string or wire and others we just leave be. They are more like hop bushes now than flowing vines. They are as mild as it gets for hops, but they sure are beautiful to watch and fun to use. If you have the space, you may want to consider buying some hop rhizomes in the spring for next summer.

Teach a Friend to Homebrew Day

The fall brewing event organized by the Association of Brewers is Teach a Friend to Homebrew Day. This day of service to the hobby is slated for Saturday, November 1. This year, the idea remains the same: encourage, entice or inebriate a non-brewing buddy to your local homebrew supply shop, pick out a beginner malt-extract kit with them and show them the process of



brewing. Step one, of course, is that it takes beer to make beer. Break out the best from your barchives to show your friend how good homebrew can be.

My personal convergence of experiences and ideas makes me want to have a theme for this year's education day. The hobby of homebrewing is mostly a guys' thing to do in our modern era. Exceptions exist, of course, and women make great beers and serve in leadership roles in many of our brewing communities. Charlie Papazian's column "World of Worts" discusses his experience teaching his wife Sandra how to brew. At the recent AHA National Homebrewers Conference in Chicago, we turned Saturday afternoon into seminar blocks on

beer and food, and the attendance was far more gender-balanced than the previous two days.

Meadmaker extraordinaire Ken Schramm and I have been discussing 2.5-gallon batch sizes to make the hobby more accessible to those who would prefer a smaller quantity of finished product or less weight to haul around, as a possible means of creating more gender and age diversity in our hobby through greater accessibility. You can see what I'm getting at: teach a woman to brew this November 1. In English culture at least, women were the dominant brewers until the 1600s; now it's time to help women re-establish the link to brewing of our human ancestry.

Visit the Teach a Friend to Homebrew Day area of www.beertown.org for information on the project and to receive a free copy of *Zymurgy for Beginners* for your friend.

Summer Recap

The AHA National Homebrewers Conference was an unbelievable event held in Chicago over summer solstice. A total of 769 homebrewers, professional craft brewers and beer and food enthusiasts enjoyed sem-

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inars, club hospitality, beer and food events, discussion and great camaraderie. With 398 full conference attendees, we blew the old record of 303, set in 1995, out of the water. And we had a really fun time doing it. The 2004 AHA National Homebrewers Conference is set for June 17-19 at the Riviera Hotel on the Strip in Las Vegas.

The AHA National Homebrew Competition received 3,340 entries this year, its fourth straight year of growth. Gold-medal recipes are available in the "Winner's Circle" column compiled by Amahl Turczyn Scheppach. We added a judging site this year to handle the growth and will likely need another one next year. It interests me that Alaska, with 0.2 percent of the U.S. population, won 12.6 percent of the medals. Numerically Alaskans won 11 out of 87 medals in the competition. Perhaps we should bring the conference to Alaska some year to discover the secrets of the brewers in the area.

AOB Pub Discount Program News

We are in phase two of the pub discount program. Phase two has two key components: 1) AHA liaisons are qualifying and communicating with the next wave of pubs for inclusion on the list. 2) The program is now open to the finer beer bars across the country. In this way we have local people building the program on a personal basis and, in turn, they can help use these places to grow AHA membership. In addition, the pubs get hooked into the Association of Brewers network and begin receiving great brewing and beer enthusiast information, including promotional ideas for American Beer Month.

Shipping Homebrew

One issue that is growing in importance for many homebrewers is the increasing difficulty of shipping homebrew to competitions. This issue was discussed during the AHA Board of Advisers meeting held before the conference, and the board will decide what steps the AHA staff should take in regard to this issue. AHA staff has had discussions with some private carriers, who have yet to commit to wanting to serve as the carrier for beer competitions and the many thousands of packages that business represents.

AHA Division Financial Performance for 2002

Revenues.....	Actual	Budget
Membership/Sponsorship	\$282,672	\$250,000
Zymurgy Advertising	\$80,500	\$93,000
Magazine Trade Listings	\$27,542	\$21,500
Magazine Single Issue Sales	\$27,106	\$24,450
Homebrew Conference Revenue	\$33,895	\$33,000
National Homebrew Competition	\$37,828	\$32,000
Other	\$14,589	\$9,900
TOTAL	\$504,132 ..	\$463,850
Expenses		
Marketing	\$39,829	\$34,450
Zymurgy Production/Printing	\$182,931	\$198,154
Conference	\$39,078	\$31,801
National Homebrew Competition	\$21,565	\$25,088
Programs and General	\$66,316	\$62,707
TOTAL	\$349,719 ..	\$352,200
Contribution to		
AOB' Overhead	\$154,413 ..	\$111,650

¹ "AOB" stands for "Association of Brewers," the parent organization of the American Homebrewers Association. Both the AHA and AOB are not-for-profit 501(c)(6) corporations.

Notes to AHA Financials:

"Programs and General" includes divisional, advertising and events staff salaries related to AHA activities but not attributed to Zymurgy, the National Homebrew Conference or the National Homebrew Competition.

"General" does not include rent, utilities, maintenance, administrative, information and membership services salaries, some capital expenses and reserve expenses. Those items come out of the Association of Brewers budget, which is funded in part by the AHA contribution to AOB Overhead.

Sponsorship of the NHC and the conference are included as program revenue.

Charge backs by our magazine distributor for unsold Zymurgy copies have been deducted out of magazine sales.

Association of Brewers Sponsorships

While we receive sponsorships from businesses and individuals who support the goals of the association for many of our programs, we also have a couple of external events that we are sponsoring this fall. First, the AHA will again be a sponsor of the KROC World Brewers Forum September 25 in Denver. This event, which brings homebrewers together for an educational session, directly addresses our mission of making quality beer and brewing information accessible, and we are proud to support the World Brewers Forum for the ninth year in a row. Another event we will be doing an in-kind sponsorship for is the second annual meadfest, previously known as "Planet Buzz." This year's International Meadfest will be at the Broker Inn in Boulder on the

Association of Brewers Financial Summary 2001-2002

REVENUES	2002 Actuals	2001 Actuals
Advertising Sales	\$369,518	\$432,016
Sponsorship Revenue	\$165,951	\$215,345
Membership Revenue	\$481,179	\$466,443
Book Sales	\$121,127	\$121,460
Magazine Single Issue Sales (Zymurgy & New Brewer)	\$62,608	\$62,474
Events	\$1,212,871	\$1,048,002
Other Member Services	\$157,808	\$141,070
Misc. Revenues	\$17,688	\$23,963
Discounts/Adjustments	(\$5,299)	(\$13,354)
Total Revenues.....	\$2,583,451	\$2,497,419

EXPENSES

Accounting, Banking,	
Legal, other fees	\$34,776
Employee benefits	\$44,892
Depreciation and amortization	\$85,809
Insurance	\$25,061
Interest	\$8,145
Repair & Maintenance	\$5,794
Office/Computer	
Equip & Supplies	\$14,389
Rent	\$87,256
Utilities	\$36,270
Event Operations	\$374,392
Marketing/Promotion/	
Advertising	\$121,079
Equipment Lease	\$15,454
Postage and Shipping	\$88,633
Printing	\$103,430
Staff and Non-staff	
Event-related Travel	\$91,495
Cost of Goods Sold	\$109,752
Cost of Complimentary services/goods	\$42,078
Salaries	\$797,502
Commissions/Royalties	\$72,152
Payroll Tax	\$63,703
Other Tax expense	\$14,323
Outside Services and Contract work	\$213,074
Disposal of Assets	\$7,410
Miscellaneous	\$18,187
Total Expenses	\$2,475,056
Increase (Decrease) in AOB Reserve	\$108,395 ..(\$80,578)

Notes to AHA/AOB Financials: In comparing the AOB and AHA financial statements, it would be tempting to conclude that other AOB divisions lose money or have a negative contribution to AOB Overhead. Otherwise why would AHA send a contribution of \$154k to AOB, but AOB only show a reserve increase of \$108k? However such a conclusion would be false. What's missing is a vast additional piece, namely the overhead required to operate the AHA and other AOB divisions. Things like office rent, utilities, administrative support, computer services and capital equipment expenditures and depreciation do not appear in the AHA budget but are covered in the AOB budget. Furthermore, AOB overhead expenses are not broken-down by division. Thus the only conclusion we can reach for 2002 is that the total contribution to overhead by all AOB divisions exceeded the total overhead costs by about \$108k. In 2001, the reverse occurred: total overhead costs exceeded total division contributions by just over \$80k.

weekend of October 25 (see www.meadfest.com). For those who attended the first one in Chicago last year, you know what a great time this will be.

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We expect more than 1,000 AHA members for the Connoisseurs Tasting, where the annual GABF awards are presented, giving you the ability to know what the best beers in the country are as soon as they are announced with a chance to taste many of them right away. I look forward to seeing you there.

Paul Gatza is director of the American Homebrewers Association.



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BY RAY DANIELS

Your Beer Makes Conferences Great

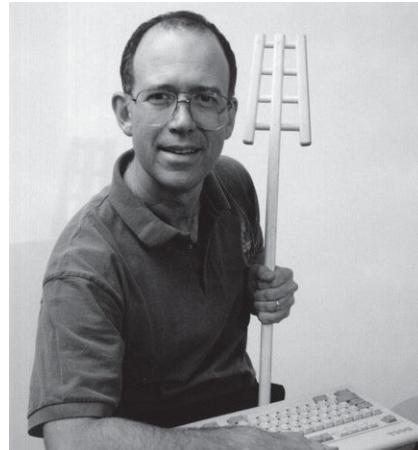
OK, unless you have really had your head stuck in a fermenter for the past six months, you probably know that we just hosted the AHA national homebrew conference here in Chicago. By all indications, a good time was had by all. We pulled in the big names (Michael Jackson, Charlie Papazian, Fred Eckhardt, Garrett Oliver, etc.) and the attendance set records. But more importantly, we had a ton of clubs show up and bring lots of homebrew. As a result, there was never a shortage of beer (a key success factor for any beer event) and a heck of a lot of it was damn fine stuff too.

At this point in the process, the folks around here are taking a well-deserved break and the silence in my "Chicago Beer Society" e-mail box leaves me with some time to contemplate this conference and indeed, all the homebrew conferences I have attended. As a result, I have compiled a set of tips for all homebrewers to observe with regard to the annual AHA conference.

It's the Homebrew!

I mentioned that we brought in the big names for this conference, and that was a great thing. But in the end, homebrewing—and a successful homebrew conference—is less about big names than it is about homebrewers sharing their beers. What really makes a homebrew conference is, well, homebrewers. When brewers pour their pride and joy and people say "Wow, that's good! Who made it?" then you have a good homebrew conference. Thus I mean it when I say that the success of any conference depends almost entirely upon the individuals and clubs that show up ready to show off good homebrew.

With that in mind, I serve notice to everyone within driving distance of next year's conference in Las Vegas: fire up those brew pots and prepare to show us what you've got!



I say that the success of any conference depends almost entirely upon the individuals and clubs that show up ready to show off good homebrew.

There are plenty of reasons for people to come to Las Vegas and have a good time. It is your responsibility to make sure they leave town talking about the great beer they had.

OK, that said, I have to admit that I have some fond memories of conferences past. I attended my first in 1991 (Manchester, N.H.) and missed a couple in the 1990s due to births and such, but I have pleasant memories of them all. Here are a few thoughts about what's great about any homebrew conference.

Late nights are best. I don't know about anyone else, but I've always found that the real fun at the conference takes place after the last official event of the day has ended and everyone who has an official function has either gone to bed or given it up for the day—including the hotel security guards. The hospitality suite always has a nice selection of beers and, hotel policy permitting, usually runs all night. Thus there is always a gathering place. From there, field trips and room visits may spontaneously erupt to feed whatever appetites you might have. (Ten-year-old barley wine, anyone?)

Of course some of my late-night memories include racing shopping carts in the parking lot near the 1999 conference in Kansas City. Another great late night started with an hour of dancing at the hotel disco bar with female members of the AHA staff during the 2000 conference in Livonia, Mich.

Of course nearly every late night includes quality time just plain sittin' and chattin' with folks over a beer. This is when you create new friendships and renew old ones. Along the way, you usually discover some wonderful beers that you hadn't noticed so far like that nitro stout I had in the hospitality suite this year. (Sorry I don't remember who brewed it—it was late!)

Behold the Spectacle. Now don't come to any homebrew conference expecting Disneyland. Of course it's also not a corporate retreat. You won't find a bunch of folks standing around in nearly identical polo shirts and khakis, talking about last year's sales numbers while slugging down their evening's allocation of gin. Shoes are definitely optional. Shirts have been cast aside entirely as well. Togas have been seen. Kilts and pseudo-kilts make regular appearances. This year we had zoot-suited gangsters, a club in prison stripes, a bowling-themed group complete with custom bowling shirts and a M*A*S*H-style

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group dressed in fatigues and operating out of a booth draped with camouflage netting.

And while the clubs can do great themes, some individuals always draw attention. This year found Dr. Ed Bronson dishing out bad beers for educational purposes in his Dracula get-up. Last year we had Blue Man Dave Dixon. His shaved head was completely enclosed in attention-getting blue vinyl paint for most of a pub crawl through Dallas. Michiganander Mike Bardallis always has something, uh, unusual on. One year it was beer goggles, last year it was homemade superhero shorts and this year there was a gold lamé thing going on—we're not sure why.

Homebrewing icon Kathy Ireland (who once graced the cover of this very magazine) has made appearances at several conferences—admittedly as a cardboard cut-out, but we appreciate the gesture nonetheless. One year in Baltimore, everyone in the room got a Charlie Papazian mask to put on when The Professor made his entrance. (I think that one stopped him in his tracks.)

See the Town. While it can be tempting to hole up in the hotel with all the great beer,

most conferences arrange at least one night on the town. In addition to some nice events, I have fond memories of off-the-program field trips in various cities. An all night wander around New Orleans with Kalamazoo Brewing Co.'s Larry Bell. Wandering the watering holes of Cleveland in search of pub-brewed lambic, ancient bar games and fresh Guinness. In Portland (Ore.) it was a reverent trip to the Church of Elvis and a pre-conference voyage to the nearby hop fields of Yakima.

I've already heard a few things about Las Vegas that have me intrigued. I haven't been to that town since I was about seven years old, but I'm already getting excited about next year's event. I probably won't drive out, but just in case someone from my club organizes a convoy to Nevada, I'll plan a brew or two with the conference in mind.

So this winter, I hope every one of you will join me and brew a batch or two with the national conference in mind. After all, it is your beer that makes the conference great.

Zymurgy editor Ray Daniels is a longtime member of the Chicago Beer Society.

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OUR READERS

A Bases-Loaded Home Run

Dear *Zymurgy*,

I'm writing to tell you that this past issue (July/August 2003) with Best Brews votes and clone recipes stands out as the single best issue of *Zymurgy*, any time, ever. It was also unequivocally better than any other beer mag issue from any of the competition. Hallelujah. Amen. Great job.

I also noticed that *Zymurgy* recently quit "jumping" its articles (if that's the term) and you can once again read an article straight through. I remember when Z-mag started jumping articles to the back a few years ago, and some of the blah-blah "industry standard" justification for doing that. Thank you for returning to the style that your readers actually prefer. If there was a single person who championed this change, please pass on my gratitude.

Not every issue can be as good as July/August, I know that. You can't spend every day at the peak. But man oh man, it surely makes sweet reading right now.

Fantastic job,
Ben Bock

Dear Ben,

Happy to be of service. And thanks for the kudos—we'll append your note to the salary increase request as we prepare next year's budgets!

As for the jumps, that appears to have happened spontaneously this spring as we transitioned to a new lead designer here at the Association of Brewers. Sometimes we also get color advertisements that allow additional color pages. In any case, since we are normally limited in the number of color pages we can run in each issue, running each story all together means that fewer stories will get color, but that in most cases the stories that do get color can get color treatment from

beginning to end. Like most things in this world, it is a tradeoff. Depending on budgets, stories and art, things might change again. But in the meantime, we're glad you're happy!

Cheers,

—Ed.

Another Happy Reader

Dear *Zymurgy*,

I want to thank you for a good job on the most recent issue of *Zymurgy* (July/August 2003). It came in the mail yesterday and I quickly skimmed it last night after everyone else had gone to bed. You and the staff did a great job of collecting so much information on the wide range of beers picked by homebrewers as the best in the U.S. While I don't usually seek out clone recipes, I found myself reading each recipe with great interest and imagining all the great flavor possibilities. I think I will give the Duvel Clone by Bev D. Blackwood a try soon. I can taste it now.

Dan Gross
Olney, Md.

Dear Dan,

Thanks for the compliments. We must admit to salivating when reading a number of the recipes too. Just in case you (and all our other readers) get around to brewing them before we do, please send samples so we can see how they turned out.

Cheers,

—Ed.

Cocoa Puffs Redux

Dear *Zymurgy*,

I just finished reading Charlie Papazian's article "Irish Cocoa Wood Porter" in the latest issue of *Zymurgy*. It mentioned an ale brewed with five different break-

From Our Readers

The Shaggy



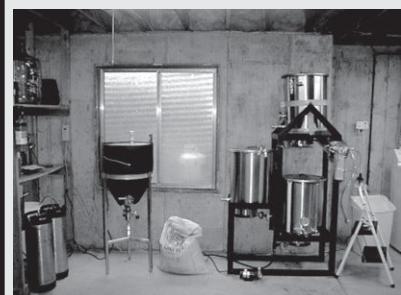
THE KRIEK-TURE
FROM
THE BLACK LAGOON



J.P.A.

Scumbag Brewing Company

Thanks to Scott Stihler of Fairbanks, Alaska for his homebrew label submissions!



Reader Cody Payne provided this photo of his homebrew setup, for which he sold his motorcycle. Says Payne, "No excuses now."

fast cereals, and I have to say I'm more than intrigued. Would you have the recipe for this?

Thank you,
Sean C. Hartl

Dear Sean,

Well, that's a tough one. The Professor says he never got a gander at the recipe in question so he can't fill you in. We've had some experience with breakfast cereal beers

(just ask noted beer author Michael Jackson!). If you want to see a couple of recipes, check out Ray Daniels' "Homebrew and Beyond" column on page 7 of the March/April 2003 issue of *Zymurgy*.

—Ed.

Duty Not-So-Free

Dear *Zymurgy*,

Regarding the July/August Last Drop on "Harvesting Beer," you might want to pro-

vide your readers a little additional info: 1 liter of alcohol (beer, wine or spirits) may be brought into the U.S. duty free. (Check out www.usis.usemb.se/Consulate/acs4.html). It has been my experience that, functionally, this is translated to mean "a six-pack" by most inspectors.

If you have more than 1 liter per adult, you may bring in the additional quantity as well, but you need to declare it and pay duty on the amount in excess of 1 liter. This

applies only to travelers on common carriers such as airlines and buses. If you are in your personally owned vehicle at a land Port of Entry, you may bring 1 and only 1 liter per adult; this prevents people living in border areas from becoming small time importers without going through ATF.

Anyway, bringing a case of your favorite Belgian back is no problem. Just make sure you declare it to avoid any perceived inappropriate intentions.

By no means do I think Mr. Blackwood's article or the AHA was advocating "smuggling" brew. This is just a minor nit and informing your readership will keep everyone free from customs hassles or feeling as though they might be engaging in a questionable activity.

Cheers,

Chad Stevens

Aircraft Pilot

Department of Homeland Security

Bureau of Customs and Border Protection

Proud AHA and QUAFF member!

Dear Chad,

Thanks for the heads up. A lot has changed in the last few years with regard to the movement of beer in and around the U.S. as anyone who tries to fly with beer on a regular basis knows. Next time you are talking to one of those inspector guys, put in a good word for homebrewers, will you?

Cheers,

—Ed.

Correction

The Sierra Nevada Pale Ale clone recipe that appears on page 23 of the July/August 2003 *Zymurgy* contains an error in the all-grain grist bill. As printed, the recipe calls for 1 pound (5 kg) of American 2-row malt—of course that should be 11 pounds (5 kg) instead.

We apologize for any inconvenience this may have caused.

Send your letters to "Dear Zymurgy," PO Box 1679, Boulder, CO 80306-1679; fax 303-447-2825 or e-mail ray@aob.org. Hey homebrewers! If you have a homebrew label that you would like to see in our magazine, send it to Kelli McPhail, Magazine Art Director, Association of Brewers, 736 Pearl Street, Boulder CO 80302 or e-mail it to kelli@aob.org.

The advertisement features two books by Charlie Papazian: "The Complete Joy of Homebrewing" (3rd Edition) and "The Home Brewer's Companion".

The Complete Joy of Homebrewing
3rd Edition
ISBN 0-06-053105-3 • 6" x 9"
\$14.95 (\$22.95 Can.) • 432pp

The Home Brewer's Companion
From America's #1 Expert on Home Brewing
The Essential Handbook
ISBN 0-06-058473-4 • 6" x 9"
\$14.95 (\$22.95 Can.) • 464pp

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- The science behind brewing
- The latest brewing advancements
- A revised reference section including a listing of homebrewing web sites
- Bigger, handy size

AND FOR THE ADVANCED BREWER:

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BY GARY GLASS

Sweet Homebrew Chicago

If you didn't make it to the 2003 AHA National Homebrewers Conference in Chicago in June, you missed out on what was probably the greatest homebrew party of all time, or at least until next June's conference in Las Vegas. Chicago-area clubs including the Chicago Beer Society (CBS), Urban Knaves of Grain (UKG) and Brewers of South Suburbia (BOSS) put on one heck of a show for all of the homebrewers and beer lovers who showed up.

Clubs, of course, were a main feature of the conference. At the Thursday Club Night event, attendees were treated to a vast array of tasty homebrew and a seemingly endless supply of mouthwatering food, including barbecue ribs, sausage, cheese and even pickled eggs, served up by 25 clubs representing 12 different states from as far away as New York and Alabama. Members of the Fermental Order of Renaissance Draughtsmen (FORD) of Southeast Michigan arrived in antique Ford automobiles and strolled into the Club Night room decked out in gangster zoot suits. Also from Michigan, the Prison City Brewers, who "Brew To Escape," sported prison-striped uniforms at the event. Their booth came complete with prison bars and their "hop rocket" getaway car, a motorized go-cart made from a quarter-barrel beer keg.

The Big Al's Memorial Trophy sponsored by the Urban Knaves of Grain—an engraved corny keg shot full of holes—went to the bowling shirt-wearing Minnesota Homebrewers Association, who garnered 574 of 1,000 votes at club night. Not bad considering the number of attendees. Hey, it's Chicago, you've got to expect a little ballot stuffing, right? The Ames Brewers League/Iowa Brewers Union went home with the Pissoir d'Or Award, a gold-painted urinal complete with a fully functioning beer faucet crafted by Randy Mosher of CBS.

This trophy was awarded to the club with the most kegs of beer at the conference. The Ames Brewers League/Iowa Brewers Union took the prize with a whopping 37 kegs. I certainly hope this becomes a new tradition; I'd like to see what club can beat that record next year!

In addition to the Club Night event, clubs showed off their brewing and culinary skills in the hospitality suite throughout the conference. Every time I popped in, there was plenty of tasty food and beverages to be found. I don't know who brought the turkey jerky, but it was a big hit with the AHA staff (except for Kate, who's a vegetarian). The Russian Imperial Stout ice cream was quite a treat too. I was particularly happy to get a sample of Jeff Renner's famous "Your Father's Mustache" Classic American Pilsner on draft from the Ann Arbor Brewers Guild tap board.

Overall, the Sweet Homebrew Chicago conference demonstrated how much camaraderie and just plain fun that homebrew clubs bring to our great hobby. I hope to see you and your club in Las Vegas. I guarantee you won't regret it!

AHA 2003 Homebrew Club of the Year

Pete Devaris of the Great Northern Brewers flew into Chicago on the way home from a business trip to Oklahoma at 8 p.m. the night of the National Homebrew Competition (NHC) awards ceremony at the National Homebrewers Conference. As the sole representative of the Great Northern Brewers, Pete found himself weighed down by 10 medals—including three of his own—that the club won that night, more than any other club entered in the NHC. The impressive showing at this year's NHC propelled the Great Northern Brewers to third place in the race for the Homebrew Club of the Year trophy,



The Ames Brewers League and Iowa Brewers Union won the Pissoir d'Or (Golden Pisser) for bringing the most homebrew to the NHC.

up from eighth in last year's competition. The Urban Knaves of Grain's Joe Formanek also took three medals in the competition, helping UKG to take a second-place ranking in the Homebrew Club of the Year contest.

In the end, though, the San Diego-based brewing juggernaut of Quality Ale and Fermentation Fraternity (QUAFF) could not be bested. Their 204 points in the competition put them more than 40 points out in front of UKG, securing their third consecutive Homebrew Club of the Year title. With 226 entries, QUAFF had more entries by far than any other club (UKG had 107 and Great Northern Brewers had 142). QUAFF member Jamil Zainasheff alone had 50 entries in the competition.

The Hop River Brewers of Andover, Conn. can take pride in the fact that club members Bruce Stott and Paul Zocco took Homebrewer of the Year and Meadmaker of

the Year respectively. Likewise, the Strange Brew Club of Newburg, Ore. has to be happy with club member Curt Hausam's performance in the competition, taking the Ninkasi Award for the second year in a row with two gold medals in the second round. This is the first time in the history of the Ninkasi Award that a brewer has won it more than once.

2002-2003 Homebrew Club of the Year Top 27

Rank	Points	Club
1	204	Quality Ale & Fermentation Fraternity (QUAFF)
2	160	Urban Knaves of Grain (UKG)
3	138	Great Northern Brewers
4	128	Society of Akron Area Zymurgists (SAAZ)
5	98	Strange Brew
6	90	Kansas City Bier Meisters
7	80	Upstate New York Homebrewers Association
8	68	Maltose Falcons Homebrewing Society
9	62	Ale and Lager Enthusiasts of Saskatchewan
10	58	Fellowship of Oklahoma Ale Makers (FOAM)
11	56	Edmonton Homebrewers Guild
12(T)	54	Central Florida Home Brewers
12(T)	54	Minnesota HomeBrewers Association (MhBA)
14	48	Pacific Gravity
15	44	Society of Northeast Ohio Brewers (SNOBs)
16	38	Austin Zealots (Zymurgic Enthusiasts of Austin Loosely Organized Through Suds)
17	36	Hop River Brewers
18(T)	28	Foam Rangers Homebrew Club
18(T)	28	Oregon Brew Crew
20(T)	24	Brewers of South Suburbia (BOSS)
20(T)	24	Downriver Brewers Guild
20(T)	24	Hampton Roads Brewing & Tasting Society
23(T)	22	Bay Area Mashtronauts
23(T)	22	Hudson Valley Homebrewers
25(T)	20	Harvest Moon Brewers
25(T)	20	Marquis De Suds Homebrewers
25(T)	20	Prime Time Brewers

It's about time to start thinking about what you will be entering in next year's competition. Good luck to you!

'All That Glitters is Not Old' Club-Only Competition

The AHA thanks David Moritz, Matt Stinchfield and the Rillito Creek Brew Club of Tucson, Ariz. for hosting the "All That Glitters is Not Old" English and Scottish Strong Ales Club-Only Competition on May 24. This was the last of six competitions in the August to May 2002-2003 cycle, with points going toward the Homebrew Club of the Year trophy. Points are awarded on a 12-8-4 basis for first, second and third place in the club-only competitions. First, second and third places in the first and second rounds of the AHA National Homebrew Competition earn points on a 6-4-2 basis.

Of 42 entries the winners were:

First Place

Stephen C. Law

Representing the High Plains Daughters of Oklahoma City, Okla. with his Wolf's Paw Heavy, Strong Scottish Ale

Second Place

Joe Formanek

Representing the Urban Knaves of Grain of Warrenville, Ill. with his McVeronica's Scotch Ale, Strong Scottish Ale

Third Place

Bob and Kim Barrett

Representing Fermental Order of Renaissance Draughtsmen (F.O.R.D.) of Warren, Mich. with their Old Butt Crack Oil,

English Old Ale

Congratulations to all of the winners, and thanks to all of the club representative brewers who entered!

September Club-Only Competition

The September AHA Club-Only Competition is Specialty/Experimental/Historical Beers, BJCP Category 24. The competition is hosted by Harrison Gibbs and the Colonial Ale Smiths & Keggers (CASK) of Williamsburg, Va.—a club particularly well suited to judging historic beers, with colonial Williamsburg's brewer and brewing historian, Joe Clark, as a club member.

Please note that for this style, the brewer must specify the underlying beer style as well as the type of unique ingredients used, process utilized or historical beer style being brewed. If the base beer is a classic style, the original style should come through in aroma and flavor. Additionally, whenever multiple fruits, spices, herbs or vegetables are used each should be distinctive in their own way. For historical styles that may not be known to all beer judges, the brewer may provide a copy of the text of references to these beers as an aid to the judges.

One entry of two bottles is accepted per AHA registered homebrew club. Entries require a \$5 check made out to AHA and an entry/recipe form and bottle ID forms. More information on the club-only competitions and forms are available at www.beertown.org. Please send your entry to:

AHA COC

C/O Williamsburg Brewing Company
189-B Ewell Road
Williamsburg, VA 23188

2003-2004 AHA Club-Only Competitions Sponsored By Coopers Brew Products

Month	Style or Name	Cat.#	Host
August	European Pale Lager	2	Foam on the Range
Sept	Specialty/Experimental/ Historical Beers	24	Colonial Ale Smiths & Keggers
Nov	Koelsch & Altbier	8	Pacific Gravity
Dec	Barleywine	12	Dunedin Brewers Guild
Mar/Apr	Mead	25	Great Northern Brewers
May	Extract Beers-Entries must include extract in recipes	1-24	Bluff City Brewers

Entries are due by September 24, 2003. Judging is slated for September 27, 2003. E-mail for questions or those interested in judging is rharrisong@lycos.com.

Gary Glass is project coordinator for the American Homebrewers Association.



Oak Barrel Imperial Stout

Ingredients for 5 U.S. gal (19 L)

3.75 lb (1.7 kg) Cooper's Stout malt extract kit
3.75 lb (1.7 kg) Cooper's Classic Old Dark malt extract kit
4.0 lb (1.8 kg) dark dried malt extract
0.5 oz (14 g) Fuggle hops (10 minute boil)
0.5 oz (14 g) Fuggle hops (0 minute boil)
0.35-0.475 oz (10-15 g) dried ale yeast or Irish-type liquid yeast
1.0 oz (28 g) toasted oak chips (secondary fermenter)
0.75 C (180 ml) corn sugar for bottling

- Original specific gravity: 1.073
- Final specific gravity: 1.017
- IBU: 72
- ABV: 7.4%

Add malt extract to 2 gallons (7.6 L) of water and bring to a boil. Boil 50 minutes and add 0.5 oz hops. Boil another 10 minutes and add remaining hops. Turn off burner and strain into fermenter with enough cold water to make 5 gallons. Aerate and pitch yeast when temperature is below 70°F (21°C). Ferment at 65-70°F (21°C) for a week. Boil oak chips in a hop bag for 15 minutes. Add chips in the hop bag to your secondary fermenter and rack beer onto chips. After two weeks, prime with corn sugar and bottle.

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CALENDAR

AMERICAN HOMEBREWERS ASSOCIATION

SEPTEMBER

12-13 **Cactus Challenge.** Lubbock, TX. AHA/BJCP SCP. Contact: Dr. Larry D. Pyeatt, Phone: 806-239-1001, E-mail: pyeatt@cs.ttu.edu

13 **River City Roundup Fair & Festival.** Omaha, NE. AHA/BJCP SCP. Contact: John R. Fahrer, Phone: 402-231-8606, E-mail: jrfahrer@archerserve.com Web: www.co.douglas.ne.us/dept/fair/

22-27 **2003 Mid South Fair.** Cordova, TN. AHA/BJCP SCP. Free! Cash prizes! Also you can enter all sub-categories. Entry deadline: 9/7-9/15. Contact: Jim Gosney, Phone: 901-354-1087, E-mail: jgosney@midsouth.rr.com Web: www.memphisbrews.com

25-27 **Association of Brewers' Great American Beer Festival.** Denver, CO. AHA/BJCP SCP. Tasting sessions offer the opportunity to sample more than 1,200 different beers from 300 breweries. Contact: Jessica Gottlob, Phone: 888-822-6273 x 145, Fax: 303-447-2825, E-mail: events@aob.org Web: www.beertown.org

27 **Pacific Brewer's Cup.** Los Angeles, CA. AHA/BJCP SCP. The Strand Brewers Club, Pacific Gravity, and The Long Beach Homebrewers present the 7th annual Pacific Brewer's Cup. PBC 2003 is open to all BJCP styles including Mead and Cider. Sponsored by Strand Brewers Club. Deadline: 9/2-9/19. Fees: \$6. Awards ceremony: 9/27. Contact: James Hilbing, Phone: 310-798-0911, E-mail: james@hilbing.net Web: www.strandbrewers.org/pbc/

OCTOBER

1 **2003 Winking Lizard Tavern Homebrew Competition.** Cleveland, OH. AHA/BJCP SCP. Competition limited to: Irish Red Ale, American Cream Ale and Oatmeal Stout. Best of Show winner will assist the Great Lakes Brewing Co. in brewing their recipe and the beer will be served at all Winking Lizard Tavern locations in January 2004. Sponsored by: RT 82 Homebrewers Association. Deadline: 9/1-9/30. Fees: \$5. Contact: Jim Leverentz, Phone: 800-543-3697, Web: www.leemors.com/wlhbc.html

4 **X-Brew: The Extreme Homebrew Competition.** Redmond, WA. BJCP SCP. Contact: Tom Schmidlin, Phone: 206-782-8507, E-mail: tschmidlin@earthlink.net

11 **2003 Name That Beer Championship (NTBC).** Richmond, VA. Greater Richmond Convention Center. The NTBC is open to competitors 21 years and older anywhere in the U.S. and abroad. There will be prizes for the first, second and third place. Contact: Alex, Phone: 804-426-6976, Web: www.namethatbeer.com

11 **KCRF Homebrew Comp.** Bonner Springs, KS. BJCP SCP. Contact: R. Clements, Phone: 816-531-6977, E-mail: sales@kcrenfest.com

11 **2003 OkTOSOfest Challenge.** Denver, CO. AHA/BJCP SCP. The first annual OkTOSOfest, "a celebration of homebrew and mayhem" challenges you to enter your finest. This competition is open to Category 9 beers only (Oktoberfest and Vienna Lager). Prizes will be awarded for the top three beers and quality feedback from BJCP judges guaranteed. Deadline: 10/3. Fee: \$6 for 1st entry; \$4 for add. Contact: Aaron Toso, Phone: 303-292-1524, E-mail: gypsy_dog@hotmail.com

12-21 **The 20th Annual Dixie Cup.** Houston, TX. AHA/BJCP SCP. The largest "single site" homebrew competition in the U.S. All 26 BJCP categories will be judged in addition to "First Time Entrants" and "Special Dixie Cup Beer" categories (see Web site for more details). Five speakers including Fred Eckhardt and beer writer Gregg Smith. Contact: Michael Heniff, Phone: 281-489-3762, E-mail: m.heniff@earthlink.net Web: www.foamrangers.com

25 **Queen of Beer Women's Homebrew Competition.** Placerville, CA. BJCP SCP. Contact: Beth Zangari, Phone: 530-621-5946 (day); 530-626-7733 (eve), E-mail: zangari1@yahoo.com

AMERICAN HOMEBREWERS ASSOCIATION • KUDOS • SANCTIONED COMPETITION PROGRAM BEST OF SHOW

FEBRUARY 2003

Florida State Fair, 285 entries — **Rob Berneys** of Orlando, FL.

MARCH 2003

Drunk Monk Challenge — BOS Beer: **Michael Heniff** of Pearland, TX.

BOS Mead: **Dennis Ayers** of Hoffman Estates, IL.

Slurp & Burp Open, 335 entries — **Ted Hausotter** of Dundee, OR.

MAY 2003

The Brewmasters Open, 308 entries — **Richard Foote** of Murrayville, GA.

Oregon Homebrew Festival, 244 entries — **David Kerndt** of Keizer, OR.

Cumberland Kegger 2003, 39 entries — **Lisa Skelley**.

Amber Waves of Grain — **Dan Cassetta** of E. Amherst, NY.

San Joaquin Fair, 52 entries — **Rick Reineman** of Stockton, CA.

Calaveras County Fair, 10 entries — **Lee Thevrier** of Lodi, CA.

7th Annual Silver Dollar Fair Homebrew Competition, 101 entries — **Larry Rauen** of Chico, CA.

10th Annual ALES Homebrew Open, 249 entries — **David Neilly** of Weyburn, SK.

Great Alaska Craftbeer & Homebrew Festival, 108 entries — **Bill Wright** of Juneau, AK.

JUNE 2003

2003 JOB Stout Stagger, 11 entries — **Kyle Loos, Keith Akstulenwicz, and Steve Olson** of Appleton, WI.

Beer Good Bus Tour, 21 entries — **Chris Hadden** of St. Paul, MN.

AHA SCP = American Homebrewers Association Sanctioned Competition Program. **BJCP** = Beer Judge Certification Program. The Calendar of Events is updated weekly and is available from the Association of Brewers: info@aob.org or www.beertown.org on the Web. To list events, send information to **Zymurgy** Calendar of Events. To be listed in the November/December Issue (Vol. 26, No.6), information must be received by August 28. Competition organizers wishing to apply for AHA Sanctioning must do so at least two months prior to the event. Contact Kate Porter at kate@aob.org; (303) 447-0816 ext.123; FAX (303) 447-2825; PO Box 1679, Boulder, CO 80306-1679.

NOVEMBER

1 **Oktobersbest Zinzinnati.** Blue Ash, OH. BJCP SCP. Contact: David A. Rice, Phone: 513-870-2729, E-mail: david_rice@cinf.com Web: www.hbd.org/cmi/

1 **Teach A Friend To Homebrew Day.** In your brewhouse. Recruit new fans to the joys of homebrewing! Invite your non-brewing friends over for a lesson at your house. Contact: Gary Glass, Phone: 303-447-0816 x 121; 888-U-CAN-BREW x 121, Fax: 303-447-2825, E-mail: gary@aob.org Web: www.beertown.org/homebrewing/club.html

21 **2003 Bloatarian Fixed Recipe Homebrew Competition.** Cincinnati, OH. AHA/BJCP SCP. Contact: Dave Harsh, Phone: 513-281-1522, E-mail: dharsh@fuse.net

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- \$230 Five-Year AHA Sponsorship
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Yours Brewly,

Paul Gatzza

Director, American Homebrewers Association

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Barley Pops & Alewives	Omaha	NE	Bies, David	Seattle	WA
Bierewolds Of Loveland	Loveland	CO	Black, Jerry	Springfield	OH
Chattanooga Brew Club	Cleveland	TN	Blattler, Cam	Brown Deer	WI
Deep Wort Brew Club	Colorado Springs	CO	Bly, David C.	San Lorenzo	CA
Desert Quenchers	Albuquerque	NM	Boatner, Pete	Charlottesville	VA
Designs Unique	Broomfield	CO	Bolt, Dale E.	Hamilton	AL
NCX Polled Herefords	Brosseau, AB	CANADA	Bonham, Louis	Houston	TX
Tahoe Homebrewers Club (THC)	South Lake Tahoe	CA	Bonner, Jeff	Allentown	PA
Tri-Cities Homebrew Club	Kingsport	TN	Borden, Arthur	Burlington	VT
Abitbol, Richard and Jaqua	Arvada	CO	Bosak, Mike	Carlsbad	CA
Adams, Lucy	Hillsborough	NC	Boss, Stephen	Laramie	WY
Aderhold, Wayne	Homer	AK	Bouthner, Robert P.	Forest Hills	MD
Adkins, Jack	Lansing	MI	Bowen, Colin	Hertfordshire	UK
Albers, Rick M.	Austin	TX	Bower Jr., Dave	Webster	NY
Alexander, Jim	Sussex Corner, NB	CANADA	Bradford, Daniel	Durham	NC
Alexandrovicz, Dan	Milwaukee	WI	Bramon, Chris	New Market	AL
Anderson, Mark	Concord	CA	Breitenfeld, Dave	Park City	UT
Andrews, Craig	Rexdale, ON	CANADA	Brice, John	Augusta	GA
Andrews, Shawn	Springfield	IL	Bridgeman, Sarah	Tallahassee	FL
Angwin, Pete	Redding	CA	Brighton, Mac	Norwalk	CT
Anthony, Larry	Janesville	CA	Bronsten, Andria	Lafayette	CO
Argilan, Stephen	Ft. Lauderdale	FL	Brown, Shawn Hamilton	St Louis Park	MN
Artz, Timothy J.	Oakton	VA	Brown, Scott	Amarillo	TX
Ash, Douglas	Pleasant Hill	CA	Browne, Frank H.	Alvarado	TX
Ashworth, Roger	West Sacramento	CA	Bruce, David	Hungerford Berk.	UK
Ayers, McCoy J.	Vacaville	CA	Bryan, Larry	Nashville	TN
Atres, John D.	Eau Claire	WI	Bucca, Ralph	Huntingtown	MD
Babcock, Patrick G.	Canton Township	MI	Buckle, Jon	Mindelheim	GERMANY
Bailey, Fred	Windsor	CT	Burkholder, Alan	Columbus	OH
Baker, Ken	Otsego	MI	Burnor, David	San Rafael	CA
Baker, Nick	London	UK	Burns, Tom	Grosse Pointe	MI
Baker, W.	Ceres	CA	Buse, Marlin	Boulder	CO
Bangs, Daniel	Enid	OK	Bynum, Hugh	Portland	OR
Barber, Gary	South Riding	VA	Byrnes, R.	Warren	MI
Bardsley, Edward	Lawrence	MA	Callio, Steve	Arvada	CO
Bardlow, David	Placerville	CA	Campbell, Robert & Cecily	Denver	CO
Barnes, Randall	La Mesa	CA	Campbell, Ben	Dawson	IL
Barnhardt, R Scott	Milbank	SD	Campbell, Daniel E.	Camarillo	CA
Barrett, Evelyn	Herts	UK	Canaday, Lois	Boulder	CO
Barrington, Bill & Cathy	Cheyenne	WY	Canaday, John	Boulder	CO
Barron, Bob	Nottinghamshire	UK	Cantin, Edmund G.	Grotos	MA
Barthel, Dennis H.	Missoula	MT	Caphe, Christopher	Chester	NJ
Bartmann, Scott T.	Ahwatukee	AZ	Capone, A. J.	South Plainfield	NJ
Basham, Ed & Joan	Fort Worth	TX	Cardoso, Alberto	Brussels	BELGIUM
Bassett, Roger	Turner	OR	Carey, Daniel	New Glarus	WI
Bates, Jack	Portland	OR	Carlson, John A.	Louisville	CO
Bauer, Norm	Bremerton	WA	Carnes, Steven	Boulder	CO
Bauer, Roger William	Tukwila	WA	Carpenter, Nelson	San Jose	CA
Baugham, Kinney	Villas	NC	Carrothers, Rand	Port Orchard	WA
Beauchot, Tim	Albia	IN	Carter, Michael	Los Alamos	NM
Beglane, Owen	New York	NY	Cash, Jon B.	Auburn	WA
Bell, J.	Chula Vista	CA	Chachkes, Jacob	New York	NY
Benson, Doug	Nederland	CO	Chamberlain, C. L.	Pewaukee	WI
Berg, Matt	Medway	MA	Chandonait, Paul	Fitchburg	MA
Bergman, Thomas	Jefferson	MD	Chaplin, Richard F.	Killeen	TX
Berriton, Tom	Salem	OR	Charlier, Mari	Seattle	WA
Berres, Scott	Mesa	AZ	Chasen, Robert	Weymouth	MA
Berthold, Eric	New York	NY	Chiang, Calvin	Penfield	NY

Lifetime Members

Childress, Patrick	Atlanta	.GA	Graydon, Susan	Gross Pointe Farms	.MI	Loiacono, Joseph	New York	.NY
Chirside, Bill	Lakewood	.CO	Greene, Christopher	Lake Forest	.IL	Loysen, Tracy	Stowe	.VT
Christiana, Cle	McClean	.VA	Gudz, Dan Bernard	Santa Ana	.CA	Luther, Gary	Hartland	.WI
Christiansen, Thomas Louis	Wichita	.KS	Hadden	Pompano Beach	.FL	Lutz, Charles	Wallden	.NY
Claus, Mike	Lake Elsinore	.CA	Haggert, Roger	Endicott	.NY	Lytle, Bill	Brookfield	.MA
Coffey, Michael	Traverse City	.MI	Halkowich, Robert	Williamsburg	.VA	Mackie, Ray W.	Las Vegas	.NV
Coleman, Tom	Perkinsville	.VT	Hall, Mike & Mary	Los Alamos	.NM	Macmillan, Steve	Henderson	.NV
Coleman, Moses M.	Vidalia	.GA	Hall, Joseph N.	Chandler	.AZ	Macneal, Keith A	Worcester	.MA
Cowell, Dana B.	Warwick	.RI	Hamburg, Steve	Chicago	.IL	Maier, John	Newport	.OR
Conger, Brian	Dunellen	.NJ	Hamontree, George S	APO	.AE	Majusiatk, Jim	Iowa City	.IA
Connor, George C.	Weirsdale	.FL	Hanson, Jeff	Lancaster	.UK	Mangin, Jim	Milwaukee	.OR
Conway, Vince	Buffalo	.NY	Harlow, Alan A.	Reading	.MA	Manka, David	Jersey City	.NJ
Cooke, Robert	Springfield	.VA	Harms, Stuart	Wilconville	.OR	Mann, Erich	Ajax, ON	CANADA
Cope, Charles	Grand Rapids	.MI	Harrington, Joseph P.	Dayton	.OH	Mares, William	Burlington	.VT
Corn, Edward	Agu Dulce	.CA	Harris, Stuart	North Bend	.WA	Markel, Jeff & Peg	Boulder	.CO
Coslor, Chris	Littleton	.CO	Harsh, Dave	Cincinnatti	.OH	Marshall, Paul D.	San Lorenzo	.CA
Cox, Charles	Cambridge	.MA	Hauer, T.S.	Atascadero	.CA	Mazewski, Eric	Severn	.MD
Cox, Sean	Andover	.NH	Haughey, James	Silver Spring	.MD	Mataitis, Frank	Owings Mills	.MD
Cristea, John	Rehoboth Beach	.DE	Hayes, David	Los Alamos	.NM	Matthews, Larry	Raleigh	.NC
Dahler, Michael	Kamuella	.HI	Head, John M.	Sacramento	.CA	Matzen, Charlie	Boulder	.CO
Dale, R.C.	Vashon Island	.WA	Heckman, Richard	Westminster	.CA	May, Robert J.	Huntington	.NY
Dalldorf, Thomas	San Leandro	.CA	Heffner, Steve	La Grange	.IL	McCalpin, Jim	Crestone	.CO
Damkoehler, Lee	Oconto	.WI	Heflin, Matthew	Washington	.DC	McClary, Eric	Carson City	.NV
Daniels, Ray	Chicago	.IL	Hempstead, John	Bellefontaine	.OH	McClure, Paul	Uncasville	.CT
Daugert, Douglas R.	Port Clements, BC	.CANADA	Hesse, Bert	Apple Valley	.CA	McClung, Kathy	Boulder	.CO
Davey, Mike	Newbury	.OH	Heyse, Karl-Ullrich	Nurnberg	.GERMANY	McConnell, Charles	Mesa	.AZ
Davidson, Darwin	Golden	.CO	Hickey, Jennifer	Washington	.DC	McIlhenney, Pat D.	Alpine	.CA
Davis, Craig William	Marcy	.NY	Hildebrandt, Tom	Greensboro	.NC	McKee, Kevin	Redbank	.NJ
Davis, Carman E.	Cuyahoga Falls	.OH	Hill, Tim	Idaho Falls	.ID	McLaughlin, Dan	Islip	.NY
Davison, Dennis	Milwaukee	.WI	Hinch, Marc & Susan	Roswell	.GA	McManus, Timothy	Haskell	.NJ
Deary, Bryce	Culver City	.CA	Hoeprich, Paul D.	Wilmette	.DE	McMaster, Charles	Copperas Cove	.TX
Deck, Tim	McEwen	.TN	Hohl, Thomas E.	Vancouver	.WA	McNutt, Ben	Visalia	.CA
Deering, Rick	Frankfort	.IL	Holcomb, Jeff	Sunnyvale	.CA	Mead, Tim	Louisville	.CO
Demchak, Michael	Rocky River	.OH	Holmes, Herbert	Barre	.MA	Meisler, Ben	Daphne	.AL
Dempsey, Steve	Chandler	.AZ	Homer, Jim	Boulder	.CO	Menefee, Vicki	Lafayette	.CO
Dempsey, Basil	Papatoetoe	.NEW ZEALAND	Hopkes, Michael	Colorado Springs	.CO	Merle-Smith, Grosvenor	Keswick	.VA
Denke, Kurt	Seattle	.WA	Hossom, Miles	Columbus	.MD	Messinger, Rob	Vancouver	.WA
Devine, Robert	Riverton	.UT	Hudson, John	Bellingham	.WA	Meyer, Rory C.	Eldridge	.IA
Dick, Scott	Carmel Valley	.CA	Huff, Gary E.	Colorado Springs	.CO	Meyer, Paula	McClean	.VA
Dietzsch, Robert	Brick	.NJ	Hughes, Dale & Linda	Centralia	.WA	Meyers, David A.	Charlotte	.NC
Diggle, Doug	Carbondale	.IL	Huiskamp, James Hendrik	Keokuk	.IA	Mikolic, Tom	Shoreline	.WA
Dolphin, John B.	Sioux City	.IA	Hunt, Allan	Nashville	.TN	Millard, Mary Beth	Turner	.OR
Dorholt, Darin	Sauk Rapids	.MN	Hunter, David D.	Forest Grove	.OR	Miller, Stephan	Sprakers	.NY
Downer, Bob	Charleston	.OR	Hunter, Jim	Miles City	.MT	Miller, Robert J.	San Luis Obispo	.CA
Downer, Ronald B.	Kodak	.TN	Hurst, Marlon	Lexington	.KY	Miller, Bryan Jon	Englewood	.CO
Drwinga, Randy	Chandler	.AZ	Jackson, William T.	Houston	.TX	Minter, Michael	Bowling Green	.KY
Dube, Dennis	Longmont	.CO	Jackson, Michael	London	.UK	Molnar, Richard	Harvard	.MA
Dudley, Leon	North Kingstown	.RI	James, David C.	Gettysburg	.PA	Monahan, John P.	Hanscom AFB	.MA
Dunham, Kelly	Pacifica	.CA	Janes, Andy	Suffolk	.U.K.	Monahan, Mike	Farmington	.ME
Dunn, Dick And Diane	Longmont	.CO	Janle, Eric F.	Alexandria	.VA	Moninger, Steve	San Antonio	.TX
Durham, Dennis	Higganum	.CT	Jasmantas, Arvydas K.	Logansport	.IN	Monson, Christopher J.	Las Vegas	.NV
Eckhardt, Fred	Portland	.OR	Jean, Paul	Ottawa	.ON	Moon, Paul	Glide	.OR
Eden, Karl Josef	Lauringen, Do	.GERMANY	Jensen, Whitey	Boulder	.CO	Moore, William R.	Littleton	.CO
Edmunds, Tom	Hermosa Beach	.CA	Joyes, Art	Severn	.MD	Morris, Claude	Austin	.TX
Egan, Timothy J.	Medford	.OR	Johnson, Peter D.	Roseburg	.OR	Morris, Fred	Lynchburg	.VA
Eichenberger, Paul W.	Louisville	.KY	Johnson, Steve	Clemson	.SC	Morris, Robert K.	Whitehouse	.OH
Eldridge, Arthur R.	Esko	.MN	Jowers, Gerald	Columbus	.SC	Moylan, Brendan	Larksprur	.CA
Ellinger, Dennis J.	Spartanburg	.SC	Judd, John	Duluth	.MN	Murphy, Bill	Brookline	.MA
Ellis, William J.	North Hills	.CA	Kane, R Emmet	Saint Louis	.MO	Murphy, Janet	Golden	.CO
Ellnor, J. Rob	New Albany	.IN	Kapusinski, Robert	Austin	.TX	Murphy, Raymond	Medford	.NY
Elmer, Robert	Portsmouth	.RI	Kasicki, Charles	Port Angeles	.WA	Murray, Tim	Evergreen	.CO
Else, Christopher	Los Angeles	.CA	Kauppinen, Monica	Citrus Heights	.CA	Murray, D	Klamath Falls	.OR
Emiley, Mark	Clearfield	.UT	Kehr, Charlie	Beulah	.MI	Nardone, Angel	Rochester	.NY
Epps, John W.	Mitchellville	.MD	Keller, Todd	Niles	.MI	Naslund, Dave	Salida	.CO
Erb, Russell	Rockville	.MD	Kergan, James F.	Sacramento	.CA	Nelson, Steven C.	Saint Paul	.MN
Erickson, Brian & Charlotte	Mountain View	.CA	Keskinen, J.	Springfield	.OR	Newton, Stephen B.	Chevy Chase	.MD
Evans, Eric W.	Twin Falls	.ID	Kilkenny, Mike	Jackson	.NJ	Nichols, Richard	Parsippany	.NJ
Evers, Steven	Boulder Creek	.CA	King, Karl	Colleyville	.TX	Nickerson, John	Cleveland	.OH
Faberman, Harris	Boulder	.CO	Kingsberry, Stuart	Boulder	.CO	Nilson, Randy	Billings	.MT
Farina, Bob	Rockville	.MD	Kirkpatrick, Charles	Denver	.CO	Nolan, Michael	Arecibo	.PR
Faiss, Jim	Lexington	.SC	Kline, Kevin L.	Charlotte	.NC	Norris, Tim	Chicago	.IL
Faust, Catherine	Elm Grove	.WI	Kloth, Ron	Tempe	.AZ	Nuntry, Shawn	Tracy	.CA
Faynor, Douglas	Woodburn	.OR	Knaub, Michael	Mount Wolf	.PA	O'Brien, Leo J.	Fremont	.CA
Fee, Andrew	Nantucket	.MA	Knights, Richard Lee	Seattle	.WA	Oda, Ryouji R.	Matsumouchi, Ashya city	JAPAN
Feldmann, A.J.	Fort Collins	.CO	Knopf, Brian	Seattle	.WA	Oglesby, Rob	Atlanta	.GA
Fellenberg, Lee	Tacoma	.WA	Knudsen, Finn	Evergreen	.CO	Opsal, Mark	West Des Moines	.IA
Fenichel, Robert	Tamarac	.FL	Koch, Jim	Newton	.MA	Owades, Joseph L.	Sonoma	.CA
Fink, Dan	Masonville	.CO	Koch, William	Grand Island	.NY	Owens, Bill	Hayward	.CA
Fitzgerald, Alan L.	Fort Lauderdale	.FL	Kollar, John E.	Baltimore	.MD	Papazian, Richard	Lexington	.MA
Fix, Laurie	Clemson	.SC	Komarow, Gregory M.	Germantown	.MD	Papazian, A. N.	Sarasota	.FL
Flores, Tom	Frederick	.MD	Konecke, Ron	Wyoming	.PA	Parks, Jeff	Manitowoc	.WI
Floyd, Matthew	Bardstown	.KY	Kornatowski, Alan G.	Gowen	.MI	Peebles, Byron & Joan	West Chester	.PA
Fluharty, Kevin L.	Elgin	.IL	Koster, Earl S.	Longmont	.CO	Perdan, Phillip	South Bend	.IN
Fogelquist, Karen	Monrose	.CO	Kotsos, Brian	Yuma	.AZ	Petersen, Don	Bloomfield Hills	.MI
Frank, Bob	Frederick	.MD	Krapels, Rich	Arlington	.TN	Peterson, Bruce	Superior	.CO
Freedman, Paul	Arlington	.VA	Kreck, Dick	Denver	.CO	Peterson, Arnold L.	Wilmington	.MA
French, Nick Allen	Hesperia	.CA	Krist, Kraig	Annandale	.VA	Pettitemmet, Donald	Springboro	.OH
Frost, Michael	Loomis	.CA	Kryzer, Thomas C.	Wichita	.KS	Pfeifferling, Connie	Boulder	.CO
Fuentes, Roy	San Antonio	.TX	Kuepper, Phil	Stamford	.CT	Phipps, Kim K.	Ft Lauderdale	.FL
Funk, David	Citrus Heights	.CA	Kutskill, Kevin	Clinton Township	.MI	Pierce, Amos	Napoleonville	.LA
Gagnon, David	South Berwick	.ME	Kuzenko, Don	Saskatoon, SK	.CANADA	Pocklington, Robert	Houston	.TX
Gaisler, Kate	Seattle	.WA	La Rue, Steve	Odgen	.UT	Polvado, Robert	Coppell	.TX
Galloway, Stan	Pueblo	.CO	Lamantia, Matthew J.	Cedar Park	.TX	Ponce, G.	Livermore	.CA
Gamble, Ron	N Vancouver, BC	.CANADA	Lamorte, Andrew	Denver	.CO	Porchon-Lynch, Tao	Hartsdale	.NY
Gannon, David	Cumberland Foreside	.ME	Landry, Steven	San Francisco	.CA	Portwood, Sean	San Luis Obispo	.CA
Garoutte, Rex	Grants Pass	.OR	Larrow, Tom	Oklahoma City	.OK	Powell, Mark	San Angelo	.TX
Garrison, Scott B.	Duluth	.GA	Larrow, Mark	Northampton	.MA	Pratt, David	Dedham	.MA
Gealy, Mark	Stockton	.CA	Lee, Gary	Colorado Springs	.CO	Priester, Joe	Bolingbrook	.IL
Gedman, Joe	Westland	.MI	Lehn, Tyrone	Burlington	.WI	Priebe, Art	Albuquerque	.NM
Gelstein, Mark D.	White Lake	.MI	Levere, John F.	Des Moines	.IA	Protz, Roger	St. Albans	.U.K.
Genova, Sandra	Greenwood Village	.CO	Lew, Ralph	Aberdeen	.WA	Prouty, Charles	Alexandria	.VA
Gignac, Marc	Pittsburgh	.PA	Lewis, Jerry	Boulder	.CO	Pruyn, Frank	Lakeville	.MA
Gilljam, Carl	Staveley	.U.K.	Lewis, Michael	Davis	.CA	Pugh, Roy R.	Sierra Vista	.AZ
Gleeson, Richard M.	Crum Lynne	.PA	Lichter, Michael	Boulder	.CO	Rae, Linda	Plainwell	.MI
Glenn, Michael	Nashua	.NH	Lietz, Robert C.	Wapakoneta	.OH	Raich, Thomas	Portland	.OR
Goeres, Mindy & Ross P.	Albuquerque	.NM	Lillian, Jonathan	Upper Montclair	.NJ	Ramsay, Stuart	Joel	.OR
Golucke, Chuck	Abrams	.WI	Lindseth, Ellen	Plymouth	.MN	Red And Zell	Corvallis	.OR
Goodman, Todd	Westford	.MA	Link, Rich	Santee	.CA	Reed, Rande	Burns	.OR
Graf, Bernad	Annapolis	.MD	Litwin, Daniel	Arlington	.VA	Reid, Peter	North Bend	.WA
Graves, Dana	Newark	.DE	Loebenberg, Michael	Ocean Springs	.MS		Northwalk	.CT

Lifetime Members

Rhymes, John W.	.Homewood	.AL	Vilter, Steve	.Anchorage	.AK
Richardson, Loran	.Boulder	.CO	Volke, Cynthia	.Thiensville	.WI
Richman, Darryl	.Santa Cruz	.CA	Walker, Adam B.	.Thousand Palms	.CA
Riley, Michael	.Capitola	.CA	Walker, Charles W.	.Lancaster	.TX
Robison, Dan	.Bountiful	.UT	Wallace, Bud	.Merced	.CA
Rocque, Warren	.Raleigh	.NC	Wallingen, Wade	.Kingwood	.TX
Rogowski, Andy	.Louisville	.CO	Walsh, William	.Manchester	.MA
Rohe, Skid	.Cockeysville	.MD	Walter, Fred	.Setauket	.NY
Ronis, Martin	.Little Rock	.AR	Walton, Gretchen A.	.Tatum	.TX
Roosevelt, Chuck	.Englewood	.CO	Wammack, Sam	.Ozark	.MO
Rose, Robby & Christie	.Sherwood	.AR	Wanderscheid, Paul	.Urbandale	.IA
Rosen, Richard	.Andover	.CT	Ward, Bob	.Orland Park	.IL
Ross, Richard P.	.Woburn	.MA	Warren, Brent	.Nederland	.CO
Rosse, Jon	.Westbury	.NY	Wasko, Virgil	.Largo	.FL
Roswick, John	.Bismarck	.ND	Weatherbee, Warren	.Lancaster	.MA
Rowen, Igor	.Round Rock	.TX	Weber, Robert J.	.San Diego	.CA
Rudy, John	.Millbrook	.NY	Weihl, Michael	.St. Louis	.MO
Ruffhead, Tom	.Lititz	.PA	Welker, Dave	.Boulder	.CO
Rulfison, John	.Overland Park	.KS	Westemeier, Ed	.New Richmond	.OH
Rusmini, Silvana	.Milan	.ITALY	Weston, Andrea	.Boulder	.CO
Russell, Inge	.London, ON	.CANADA	Wheaton, Dennis Ray	.Chicago	.IL
Ruud, Susan	.Harwood	.ND	Whitney, Dori	.Canutillo	.TX
Ryan, Daniel J.	.Menlo Park	.CA	Wikstrom, Robert	.Derby	.KS
Rzepka, Joseph F.	.Frederick	.MD			
Sallin, Scott M.	.Westmont	.IL			
Sandhu, Taljit	.Farmington	.MI			
Sartwell, John	.Ozark	.AL			
Saxer, Carl L.	.Orlando	.FL			
Sayer, Mark	.Tamworth	.AUSTRALIA			
Saylor, Curt	.Jamesstown	.ND			
Schader, Douglas	.APO	.AP			
Schiavone, Michael	.Lewiston	.NY			
Schill, Edward R.	.Glendale Heights	.IL			
Schipper, Joseph	.Viroqua	.WI			
Schleeper, Tim	.Fitchburg	.WI			
Schneider, Seth	.Westport	.MA			
Scholl, Kim	.Alexia	.NC			
Schoppe, Mark	.Austin	.TX			
Schultz, Ken	.Rockton	.IL			
Schweiger, Edward J.	.Hampton	.VA			
Seelos, Lynn	.Cocoa	.FL			
Seiff, Mark P.	.South Pasadena	.CA			
Shield, Les	.West Lothian	.U.K.			
Siegel, Peter	.Huntington Station	.NY			
Sievers, John D.	.Towson	.MD			
Simmons, Mike	.Iuka	.IL			
Simon, Mike	.Ft Atkinson	.WI			
Singleton, Jill	.Hoboken	.NJ			
Sioh, Jerry	.Houston	.TX			
Skelton, Kerry	.Santa Rosa	.CA			
Smith, Donald R.	.Palmyra	.VA			
Smith, Stan	.Underwood	.WA			
Smith, Monte	.Columbia	.MO			
Snyder, Scott A.	.Peterborough, ON	.CANADA			
Soudant, Michael J.	.O Fallon	.MO			
Soulam, Denise	.Lafayette	.CO			
Spathis, Robert N.	.Burbank	.CA			
Sparrow, Jeffrey	.Miami Town	.OH			
Spies, Jay	.Chicago	.IL			
St Denis, Roger	.Baltimore	.MD			
Stallings, Mary Lynn	.San Jose	.CA			
Starck, Linda	.Longville	.MN			
Steele, Bob	.Boulder	.CO			
Steele, Eric D.	.Santa Barbara	.CA			
Steenburgh, James A.	.Milwaukee	.WI			
Steinman, Jerry	.Rochester	.MN			
Stephenson, William	.West Nyack	.NY			
Stevens, Michael	.Vancouver	.WA			
Stoffer, Jim	.Grand Ridge	.IL			
Stokell, Alan	.Toronto, ON	.CANADA			
Stokes, Martin R.	.Old Town	.ME			
Strantz, Ronald	.Melbourne	.FL			
Stroh, John	.Detroit	.MI			
Strong, Gordon	.Beaver Creek	.OH			
Stubbs, Brett	.Tinternbar	.AUSTRALIA			
Sulkowski, Chris	.East Troy	.WI			
Swanson, Chet	.Boston	.MA			
Swenson, E.	.Baton Rouge	.LA			
Swift, Peter	.Huntingtown	.MD			
Tait, Robert	.Longmont	.CO			
Tallarovic, John	.Des Plaines	.IL			
Talley, Alexander C.	.Houston	.TX			
Tamaras, Asana	.Fairfax	.CA			
Telischak, Bob	.Boulder	.CO			
Terrian, Steve	.Kingsford	.MI			
Thanh Le, Tan	.St. Johns Park, NSW AUSTRALIA				
Thiel, George	.Friendship	.MD			
Thommes, Jim	.Rolling Meadows	.IL			
Thorngren, John	.Brighton	.CO			
Thorp, John	.Rochedale S., QLD	.AUSTRALIA			
Thorpe, Eric	.Phoenix	.AZ			
Tomory, Richard	.Anchorage	.AK			
Tortorice, Eugene A.	.Niagara Falls	.NY			
Townsend, David	.Bloomfield Hills	.MI			
Trotth, Richard	.Sulphur	.LA			
Tubb, S. R.	.Mereside	.UK			
Tucker, William	.Sierra Vista	.AZ			
Twymann, Russ	.Denver	.CO			
Tylka, Mike	Rupert	.ID			
Ulland, Randy	Kanagawa-Ken	JAPAN			
Upsal, Charles	Santa Fe	NM			
Uthemann, Mary & Jerry	Milwaukee	.WI			
Valentine, John	New York	.NY			
Van Dame, D. L.	Churubusco	.IN			
Van Wijngaarden, Marjolein	Zoeterwoude	.NETHERLANDS			
Vanderlinden, Gary S.	Palo Alto	.CA			
Vedwick, Tom	Federal Way	.WA			
Vehr, Mark & Mary	APO	.AE			
Via, John W.	Fort Worth	.TX			

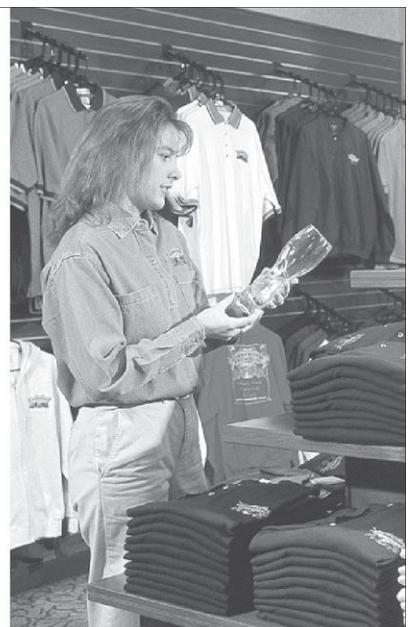
Wilk, Thomas G.	.San Antonio	.TX
Willey, Steven	.Parker	.CO
Williams, Tom K.	.Choctaw	.OK
Williams, Scott	.Edinburgh	.U.K.
Wilmot, Dean	.Peru	.IL
Wilson, Peter F.	.Auburn Hills	.MI
Winden, Kevin	.Anacortes	.WA
Winter, Ronald	.Colorado Springs	.CO
Wolf, Alan	.New York	.NY
Wollenberg, Kurt	.Somerville	.MA
Wong, Henry	.Rexdale, ON	.CANADA
Wood, Andrew William	.Phoenix	.AZ
Wood, Donald	.Tukwila	.WA
Woodmansey, Kent	.Pierre	.SD
Woollwine, Gerald	.Ashland	.KS
Wright, Matthew	.Saint Louis	.MO
Yeager, Lowell D.	.Canterbury	.CT
Yonkers, Bob & Nancy	.Springfield	.VA
Yust, John	.Knoxville	.TN
Zimmerman, Brian S.	.Denver	.CO
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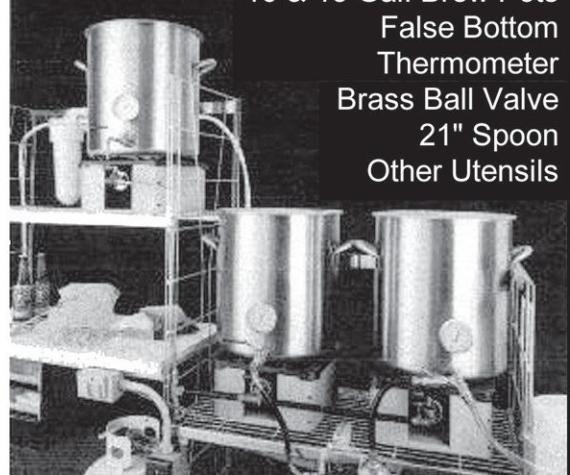
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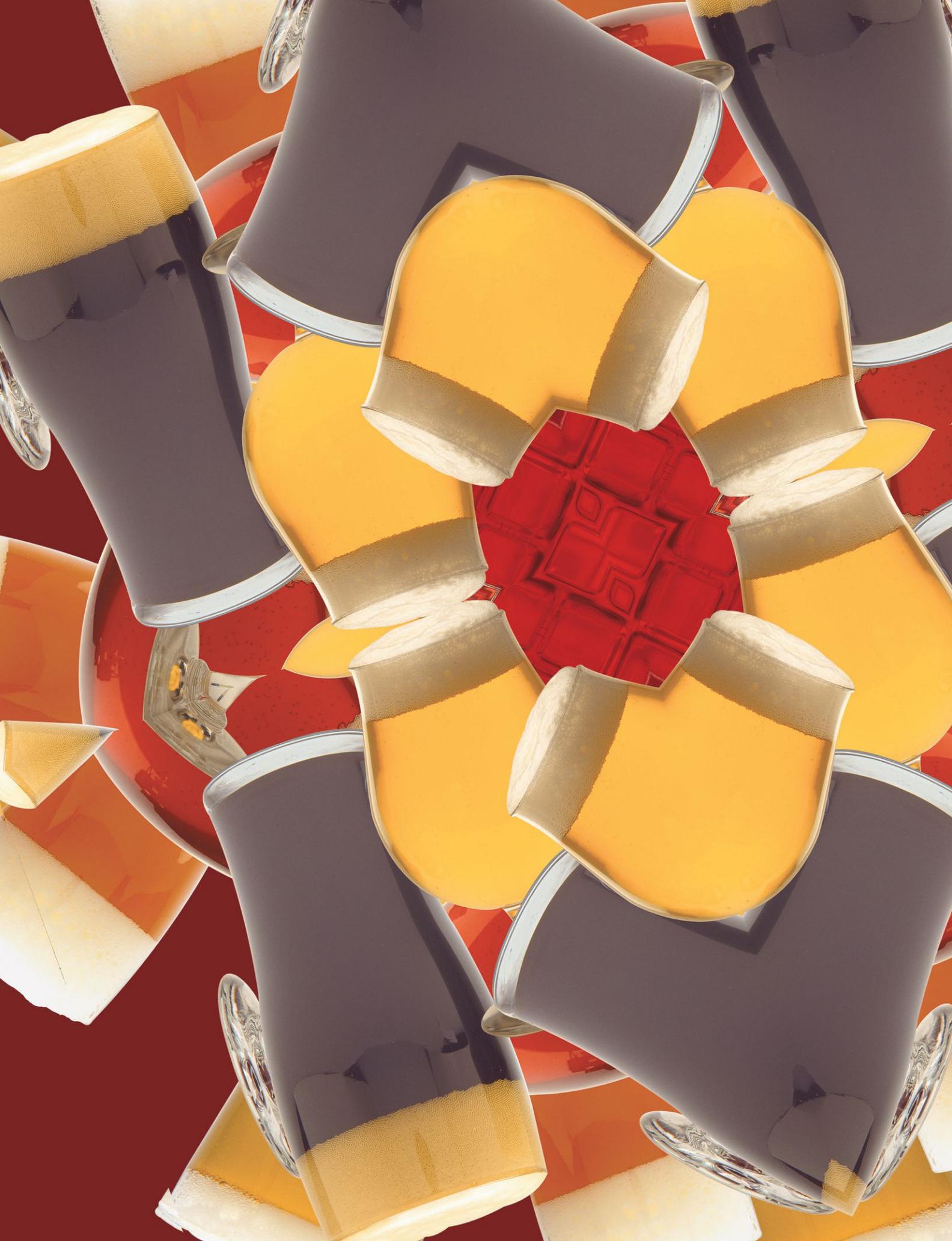
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A Taste for Color

By Randy Mosher ➤

You may be too young to remember, but in 1975 beer was a vast ocean of monochromatic gold, as far as the eye could drink. Then came homebrew. And stepping from the oppressive beery Dust Bowl into the colorful chaos of the homebrew revolution was just as trippy as when Dorothy found herself, dizzy, in Technicolor Munchkin Land.

These days a kaleidoscopic range of malt is available to brewers, leading to an infinite range of possible beers. But this embarrassment of riches brings certain problems as well: how best to mix and match to achieve one's goals?

The Path to Color and Flavor

Understanding the chemistry of malt flavor and color certainly helps to get a handle on this. So here goes.

Barley is nearly flavorless in its raw state—think beef barley soup without the beef, onions or vegetables. Malting develops a few flavor chemicals, but on the whole, air-dried barley is a pretty bland product. Just about all of the flavors we associate with malt—bready, malty, nutty, toasty, roasty and all the rest—are the result of chemical reactions that occur during the kilning that occurs at the end of malting.

Understanding this requires entering a deep, dark thicket of chemistry known collectively as Maillard reactions, sometimes referred to as non-enzymatic browning. These reactions are responsible for caramel, bread crusts, meat browning and many other very familiar and heartwarming things. It's also what makes frozen orange juice taste different than fresh, and what gives that stale can of malt extract its thin ballpoint-pen aroma. A rough outline is shown in Figure 1 to give you some idea of the complexity of the actual chemistry. Don't be afraid.

Although the specifics are hideously complex and still incompletely understood by science, the essence of it—the part that sheds light on brewing—is remarkably easy to grasp.

If you take any sort of sugar and combine it with nitrogen-bearing protein debris, interesting things start to happen. After a long slalom of fancy chemistry, two classes of end products emerge. The first are large, polymeric molecules with no perceptible flavor or aroma, but lots of color, called melanoidins. The structure of these, as much as it is known, is varied and complex, and honestly not worth the considerable effort that would be required to sort them out.

The second group of compounds that emerge from this twisted thicket is more knowable. It consists of a large group of small, ring-shaped molecules typically containing nitrogen, sulfur or oxygen, and possessing the familiar range of aromas from the lightest maltiness to the deepest roast. These extremely potent aroma chemicals sometimes have flavor or aroma thresholds as low as 0.002 parts per billion. Without them, beer would be vastly different.

So we have two big collections of diverse compounds: one gives color, the other a host of flavors. The key fact to remember about Maillard reactions is that every combination of time, temperature, pH, concentration, sugar composition and nitrogen source will create a different set of flavor chemicals. This creates the huge range of flavors we can taste in malt, and ultimately, in beer.

This concept points out the importance of considering much more than simply color when working out a recipe. Identical-looking worts may have very different flavor and aroma profiles, and in most beer styles the

particular character of the malt profile is crucial to fitting into the style. For instance, you could make a beer that looks like a Märzen from pils malt colored with a bit of black, but it will in no way taste the part.

To put a finer point on it, even similarly colored malts may have very different flavor and aroma qualities. Biscuit or amber malt (25° SRM) is kilned dry for a sharp toasty, nutty aroma perfect for brown ales. The malt sometimes known as aromatic is just a little paler, at roughly 20° SRM, but is much maltier, rounder, richer and really more of a dark Munich malt, a direct result of being roasted with a high level of moisture.

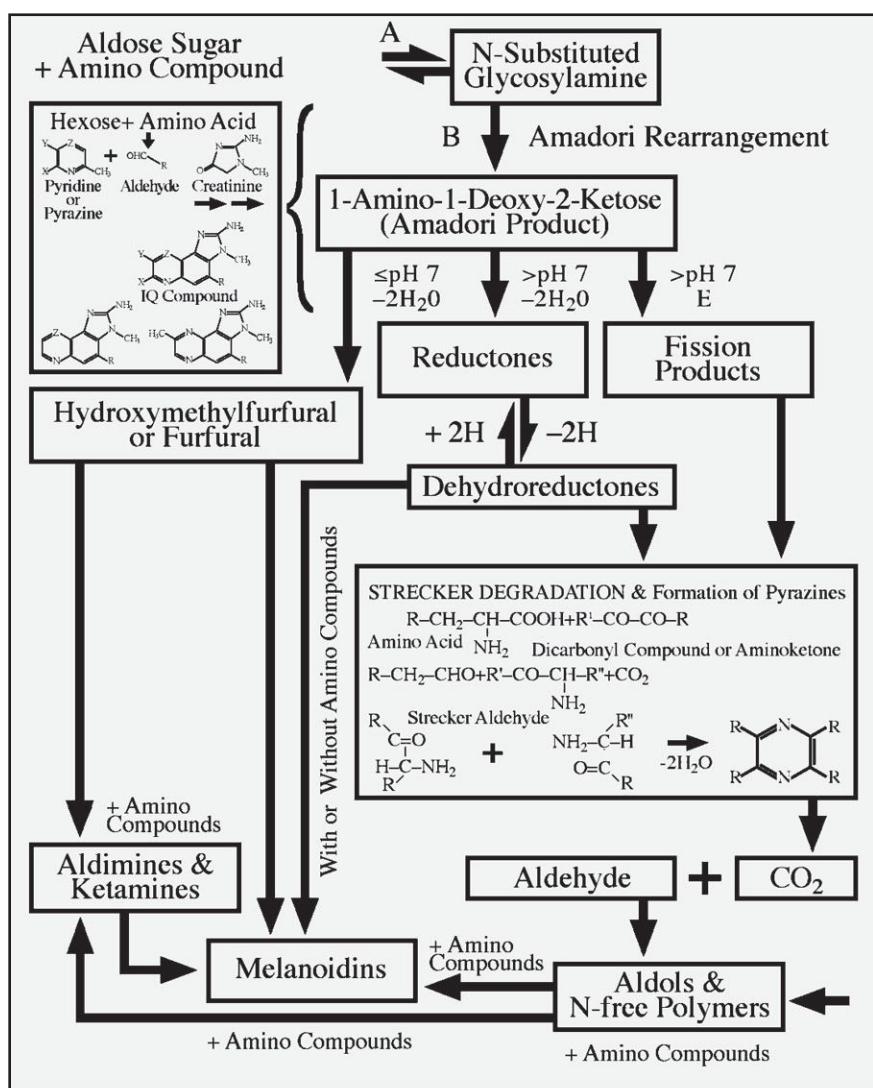


Figure 1: Maillard Chemistry for Beginners. A simplified chart on Maillard chemistry gives you some idea of the complexity of the science. Some of this is still being argued over. And you thought it was just a beer! (Credit: The Brewer's Companion, by Randy Mosher. Alephoria Publishing.)

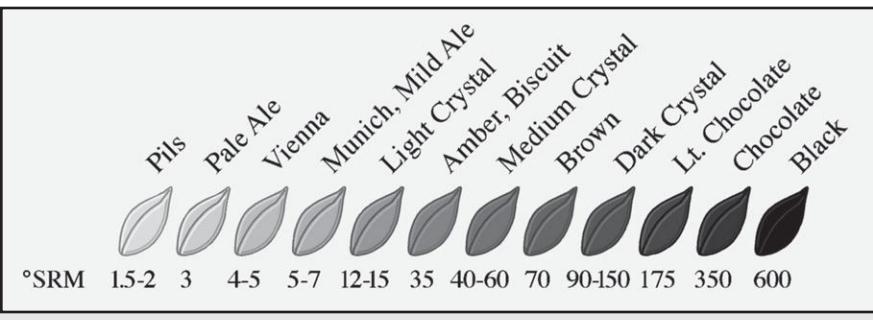


Figure 2: Malt Color by the Numbers. This shows the appearance and numerical values for many common malt types. Some of the numbers have been simplified. In reality, most malt styles exist as a range of color rather than a single number. (Credit: *The Brewer's Companion*, by Randy Mosher. Elephentia Publishing.)

Crystal malts dramatically demonstrate these differences. Each maltster does things a little differently, which is reflected in the final product. As a fun and easy club event, hold a crystal malt tasting. Get as many different makes of crystal as you can round up, group them by color and start tasting. You will be amazed by the variety, even among identically colored ones.

Every good brewer I know, of whatever scale, constantly tastes the ingredients. Make this a part of your brewing habits.

On to a Recipe

Now you can start putting things together. I like to understand styles from a historical perspective. Not that I always brew them that way, or even brew a real style at all, but if you are going to break the rules, it sometimes makes sense to know what they are.

In the time and space allotted I can offer only a few illuminating examples. The aforementioned Märzen was originally the beer made from malt kilned in the fashion of the day in 19th-century Vienna. This malt was deeper in color than pils malt, and a beer made exclusively from it would have the tawny hue that is the visual hallmark of the style. Of course, times change, and now such beers are often made with pils malt as a base, with some Munich or even (gasp!) crystal tossed in to add that caramel/toffee quality, and often topped off with just a dash of black malt to adjust the color to the appropriate level. I can't tell which of these is the morally superior formulation, but I always have a soft spot for 19th-century traditions.

Porter is even more unknowable. In its infancy, it was heavily dependent upon brown malt for color as well as fermentables, although it does appear that pale and amber malts were used as well by the late 1700s. For 200 years porter formulations changed, with less and less of the darker malt. A big change came when the inven-

**As a fun and easy club event,
hold a crystal malt tasting.
Get as many different makes
of crystal as you can round
up, group them by color and
start tasting.**

tion of a practical hydrometer (in the late 18th century) showed the absurd wastefulness of earlier recipes. Brewery accountants were quick to pick up on that one, and as soon as Wheeler invented a method in 1819 for producing a truly black malt, they pounced on it. Some of the brewers' books around 1840 howl at the injustice.

Gravities varied, color varied, nomenclature varied, and by World War II, porter had vanished in its home country, driven to the nether regions of the Baltic Sea and Pottsville, Pa. As you can imagine, these ves-



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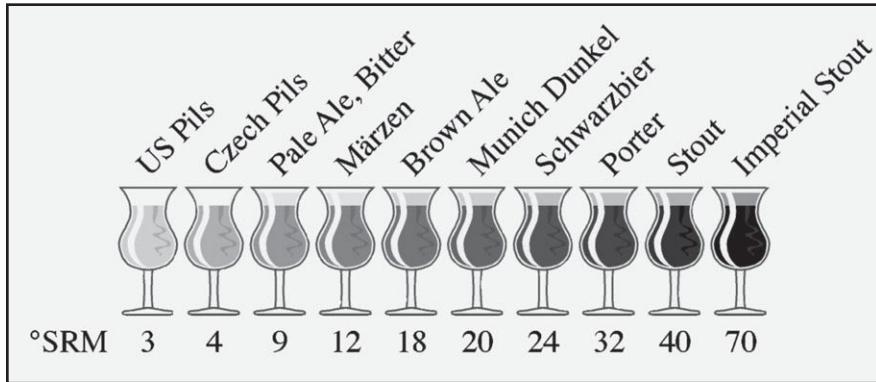


Figure 3: Beer by the Numbers. This chart is a rough guide to beer color as expressed by the numbers. As with the malt chart, the numbers have been simplified, and these styles exist as a range. (Credit: *The Brewer's Companion*, by Randy Mosher. Alephenaia Publishing.)

tigial beers couldn't be more different. Again, moral, or at the very least artistic, choices.

Porters made to emulate the early examples often explode with soft, toasty mocha notes, thick and substantial in their maltiness. Later black plus pale malt versions have a sharper, thinner flavor, which I suppose suits modern tastes better, but what does that say?

What I'm getting at is that it's a good idea to try to define the signature malt character you would like to taste in your beer and build the recipe around it.

It doesn't have to be just one thing. You can aim for a symphony of malty flavors, balancing off rich warming maltiness with a whiff of sharp roastiness to create an old ale or Scotch ale, for example. Or chunk up the austere purity of pilsner malt with an overlay of Munich or Vienna. Maybe you want to do as one brewer did after hearing me rant on the subject, and put some of every kind of malt into the beer and just be done with it.

That's complex! In the end, the possibilities are endless, so it helps to have a plan.

Consider especially the middle malts. In porter and stout, expecting pale and black malt to do all the work can leave one a bit disappointed. Putting a thick, creamy layer of something or other in there can give this a lot more personality. Good choices to fill this role include amber/biscuit, aromatic and the crystals. You might even consider replacing half or more of your pale malt with something with a dab more color: mild ale malt was a common choice in Britain in the 19th and 20th centuries. Its color (5–7° SRM) gives it rich, malty qualities very much like Munich, and this will fatten and add fascination to these sometimes drab working-class beers.

Calculating Color

As you work out a recipe you will need to do a little calculating of gravity and color.

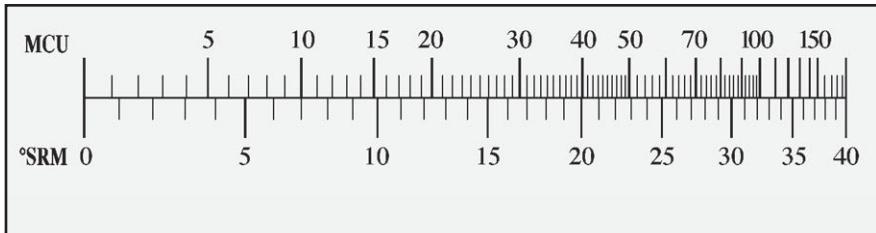


Figure 4: Conversion of MCUs to SRM. This slide-rule type scale can help you predict the color of your finished beer based on the malts you use. Calculate malt color units (MCUs) by multiplying each malt's color rating in SRM (or Lovibond) by its weight and totaling the number for each malt in the recipe before dividing that total by the number of gallons in the recipe to arrive at MCUs.

Predicting SRM from Your Grist Bill

Using the chart in Figure 4, you can predict the approximate color of your finished beer based on the malt bill. Let's assume you are making a brown ale with the following malts:

8.0 lb	Pale Ale Malt	3° L
0.5 lb	Crystal Malt	50° L
0.33 lb	Chocolate Malt	300° L

To arrive at the MCU value for this grist, multiply the weight of each malt by its color rating.

Pale Ale	$8.0 \text{ lb} \times 3^\circ \text{ L}$	= 24
Crystal	$0.5 \text{ lb} \times 50^\circ \text{ L}$	= 25
Chocolate	$0.33 \text{ lb} \times 300^\circ \text{ L}$	= 100
MCU Total		= 149
Divided by gallons for recipe		/5 gallons
MCU for recipe		29.8 or ~30 MCU

Consulting Figure 4, we see that 30 MCU correlates to about 17 SRM—a pretty good color for a brown ale!

Gravity is covered in various places and should be something every brewer knows how to do: a simple adding up of potential fermentables from each grain in the grist, adjusted by your expected efficiency.

Calculating color is a little more problematic, but there are ways you can achieve meaningful results (as long as you don't expect me to provide real science here.) Malt Color Units (MCUs) are a simple way to express the total color of malt in a recipe. Simply multiply malt color in SRM (or Lovibond) times pounds for each grain, add them all up and divide by the number of gallons in the recipe. Simple, right?

Two problems: malt color numbers are about as descriptive and relative to the colors in a finished beer as the names on crayons—a fact that makes most people in the malting and brewing business sigh in resignation. Second, malt color just doesn't add up in a linear fashion. The more you add, the less color really shows up, so you end up with a calculated color as much as three or more times higher than the beer will actually measure. People in the know postulate that there is some sort of interaction of color molecules at high concen-

American Society of Brewing Chemists (ASBC) Color Measurement Standard in a Nutshell

Sample is decarbonated and centrifuged or filtered (if needed) to remove haze, which will affect readings. The sample is inserted into a 1 cm sample cuvette. This is loaded into a spectrophotometer and absorbance is read at a blue wavelength of 430 nanometers.

An absorbance value thus obtained is multiplied by two factors: first by 1.27 to compensate for the 1 cm cuvette size (original standard was written for a half-inch cuvette); and then by 10. The resulting number is beer color in SRM.

This method was developed as a transition from a visual system of color determination and the factors applied help the photoelectric method correlate with the old Lovibond glass comparison standards.

Few spectrophotometers can give a reading beyond 20, and most are far more accurate in the lower end of the scale. For this reason, samples of darker beers must be diluted with distilled water before reading. Everyone seems to agree that there is a sort of nonlinearity, but the prevailing attitude is just to wink and move on.

Finally, EBC color is nearly twice that of SRM color. The exact conversion factor is SRM X 1.97 = EBC.

trations, or some precipitation during boiling or later, but nobody really seems to know.

At the very low end of the scale (2-4° SRM), the calculations work out fine. For us homebrewers, this isn't all that relevant, because at these levels, things like batch variation and kettle caramelization can throw careful calculations into complete chaos anyway. So don't get hung up trying to perfect a method for predicting a 3° SRM color: just go light and things should work out pretty well.

When we get to the amber and darker beers, calculations can help us hit the mark with some consistency. Based on work that I—and later Ray Daniels—have done and verified by personal experience, Figure 4 gives a conversion chart that offers a rough translation between MCU and SRM beer colors. As you can see, the darker you get, the more discrepancy between predicted and actual color.

Translate your desired beer color from SRM to MCU, then start adding up the malts, starting with the medium colored ones, adding enough of the palest ones to get to your desired gravity. Then adjust the color with the darker malts. It's a little tricky at first, but it will give you more reliable results than just guessing.

You also have to have common sense about quantities. I have seen recipes for amber-colored beers that contained a quarter pound of Munich malt, virtually undetectable in such a brew. The flavors of the paler colored malts are very delicate and must be thought of as more of a base malt, except in very pale beers, where perhaps 5 percent can add a sweet, malty touch.

You may find one general rule that I follow to be useful as well. When I'm brewing, I like to get most of my color from the malt in the recipe that is not the darkest one. To my taste, they're just more profound this way, but it's clearly a personal preference.

Stuff You Can't Predict

You should be aware that there are loads of other factors that affect beer color:

- Efficiency of mashing
- Batch-to-batch variation of malts
- Kettle caramelization
- Mash and boil pH
- Aging time
- Finings or filtration

Am I saying you can ignore these? Yes I am. Anheuser-Busch can't, but you can. This color prediction business will get you only so far. If you're really trying to nail that Ninkasi award, you'll be well advised to do some trial batches and make adjustments based on your own experience, as brewers have always done.

So whether your beer is light or dark, sweet or bitter, I hope you take a new look at the way you put your recipes together. It's this back-and-forth between knowledge and artistic vision that makes homebrew such a joy to pursue. And to drink!

Randy Mosher has been called "a homebrew genius" by beer writer Michael Jackson. He is a regular contributor to *Zymurgy* and a member of the AHA Board of Advisors and the Association of Brewers Board of Directors.



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What is Beer Haze & Why Do We Care?

*K*ast month you planned and brewed what should be your best beer yet, and today is the first pour. Your recipe used a new brand of malt extract, or a new specialty grain/wheat, and you added dry hops/fruit/spices to the secondary fermenter to give it that extra flavor you were



By John Palmer

looking for. The guys at the homebrew shop had tried pulling your leg when you told them the recipe—suggesting that you add seaweed to the boil and put fish guts and JELL-O® in the fermenter. What a bunch of kidders. You didn't believe a word of it!

Clarifier Summary Table

Clarifier	Purpose	Amount	Comments
Irish Moss	Protein coagulant	1 teaspoon per 5 gallons	A good clarifier for almost all worts, though not recommended for high adjunct worts.
Whirlfloc	Protein coagulant	1 tablet per 5 gallons	A good clarifier for almost all worts, though not recommended for high adjunct worts.
Isinglass	Yeast flocculent	15-60 mg/liter or 2 fl. oz. per 5 gallons	Most effective for settling yeast. Will also settle some protein haze.
Gelatin	Yeast flocculent	60-90 mg/liter	Only about one-half to one-third as effective as isinglass.
Polyclar/PVPP	Polyphenol binder	6-10 grams/5 gallons	A non-aerated slurry should be mixed into the beer before bottling and allowed to settle out. Should take a day at most.
Silica Gel	Protein binder	6-10 grams/5 gallons	A non-aerated slurry should be mixed into the beer before bottling and allowed to settle out. Should take a day at most.

And now you pour your best beer, and ... it's cloudy! What happened?

Several possible factors can cause cloudy or hazy beer. Maybe it's simply that your yeast has not flocculated (settled out) yet. You might have a wild yeast or bacterial infection, or it could be haze due to unconverted or insoluble starch or fruit pectin, or it could be a polyphenol/protein haze. How can you tell? What can you do about it?

You may hear many answers to these questions, in part because of the many possible causes. You could try cold conditioning a yeasty beer for a few days to see if that helps. If you have an infection, there's not much you can do except dump the batch. Starch hazes offer a food source for many wild yeasts and bacteria and can contribute

to flatulence as these natural organisms in your gut attack the starch. You can combat fruit pectin haze with pectic enzyme or by changing how you prepare your fruit for the fermenter. Finally, proteins and polyphenols from the malt and hops can combine to form both temporary and permanent hazes.

Everyone is used to seeing crystal clear American Light Lager beer and assumes that this is how clear every beer should be. Wrong! In fact, the low-protein, high-adjunct beers of the U.S. are some of the clearest beers in the world, if not the clearest. The ingredients have a lot to do with it, but the other half of the equation is the filtering capability that large commercial breweries have available to them. Filtering systems for homebrewers are available, but

require that you keg the beer and force carbonate, because the yeast is filtered out too.

The big question is: other than aesthetics, why should you care about cloudy beer? You can't taste haze, or can you?

In truth, haze can be an indicator of another problem, as in the case of bacterial infections. Bacteria usually cause clouding of the beer and characteristic off-flavors. For instance, *Pediococcus damnosus* is a common brewery infection that generates high amounts of diacetyl. *Lactobacillii* can produce a variety of flavors in addition to the tartness of lactic acid, some of which are pleasant, as in Lambic beers. Other lactic acid bacteria strains will produce excessive amounts of diacetyl like the *Pediococcus* bacteria. A third type of haze-causing bacteria is coliform, and these bacteria will often produce vegetal off-flavors, reminiscent of parsnips and old celery. These types of hazes will most likely develop in the bottle after fermentation, and the sudden appearance of haze can be an indicator that something has gone wrong.

Fortunately, most haze in an otherwise good beer is caused by a combination of protein and polyphenols. Commercial brewers spend millions of dollars annually researching and combating this type of haze. Why? Because the polyphenols that contribute to haze are part of a chemical equilibrium that contributes to oxidative staling reactions.

Right now, some of you (OK, most of you) may be wondering, "Just what are polyphenols?" You may have heard of them in terms of being an off-flavor in beer—sometimes having spicy, plastic or medicinal flavors. This is true: several types of polyphenols have characteristic off-flavors. You may have



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heard that polyphenols are tannins. Actually it's the other way around—tannins are a large type of polyphenols. And you have probably heard that oversparging and/or having the wrong mash pH will leach tannins into your wort. True again: tannins and other polyphenols can be extracted from the malt husks and from the papery hop cones. Because they come from beer ingredients, polyphenols occur naturally and universally in beer. Complaining about their presence is like complaining about having sand in the desert. Unless there is a sandstorm, you just accept it and work around it.

If you think of phenols as being like LEGO blocks, you will get an idea of the size range and how small polyphenols can link up to form large polyphenols and tannins. The most common manifestation of protein-polyphenol haze is "chill haze" which is formed by small polyphenols cross-linking with protein. These complexes are insoluble when the beer is chilled, but don't have enough mass to settle out effectively. The chill haze complexes dissolve back into solution when the beer is warmed to room temperature.

Larger polyphenols form larger complexes with protein and can settle out as hot and cold break, while the smaller polyphenols are carried over into the final beer. As mentioned earlier, these small polyphenols can grow by polymerization, especially in the presence of oxygen. If a beer with chill haze was poorly handled during bottling, oxygen could cause chill haze to become permanent haze.

While searching the abstracts in the professional brewing journals, I found it interesting to discover that haze seems to have become a bigger problem in the past 10 years. While this increase could simply be attributed to growth in the craft brewing industry and a tighter focus on quality, a better explanation might be that there is also more awareness and control of oxidation in the wort production process.

Reductions in wort oxidation result in less polymerization of the smaller polyphenols, such that fewer polyphenols and tannins precipitate in the break material during boiling and cooling. Thus more polyphenols survive into the packaged beer where they contribute to chill haze. In other words, a beer produced

30 years ago with little regard to hot side aeration may have been more prone to staling and had a shorter shelf life, but was probably clearer than comparable beers today.

Fixing Haze in Your Recipe

To reduce haze in your brewing, you can try to reduce the protein levels, polyphenols or a bit of both. You can make reductions by tweaking the recipe or by using clarifiers and finings. Each option has its pros and cons. To reduce proteins and/or polyphenols in the recipe, you can change from an all-malt recipe to one that uses a percentage of low protein adjunct like corn, rice or refined sugar, as exemplified by American Light Lager, Belgian Tripel and Strong Ale. Using wheat or wheat extract in a recipe to reduce polyphenols (wheat doesn't have a husk) can be a double-edged sword. At low levels, say 5 to 12 percent of fermentables, the high protein levels in wheat can contribute extensively to haze, but as the percentage of wheat increases to 40 percent, the total polyphenol levels are substantially decreased and the beer is very clear.

Hops also contribute polyphenols to beer. A lot of brewers swear by the exclusive use of low alpha acid aroma hops for bittering, justly claiming a more refined hop character in the beer. The downside to this is the greater proportion of hop bulk (up to four times as much material) in the wort, and the proportionate increase in polyphenols that can be

extracted from it during the boil. I brew an American Wheat extract beer that tends to be hazy due to the wheat, but last time I brewed it I switched from using Nugget (12 percent alpha acids) as my bittering hop to Liberty (3.5 percent alpha acids). This batch has a superb hop character that's as rich as royalty, and a creamy head that demands a spoon to clean the glass, but it is hazier than previous batches. A study by McMurrough¹ showed that 70 percent of malt polyphenols can survive the hot and cold break, while only 20 percent of hop polyphenols do. The message here for reducing polyphenols and proteins that cause haze is to achieve a good hot break, perhaps aided by Irish moss, and use a wort chiller to get a good cold break.

If you are an all-grain brewer, your malts and the way you mash and sparge can affect your polyphenol levels too. The Crisp Malt Group has developed a special barley strain and a resulting pale ale malt called "Clarity" with extremely low polyphenol levels. Greg Beron of Culver City Brewing Supply in Los Angeles brewed a Blonde Ale using 9 pounds of the malt plus some specialty grains without using other clarifiers and the beer came out brilliantly clear. Members of the local Pacific Gravity brewing club gave the batch high marks.

Your sparging method can also affect the total polyphenol levels. While the first runnings have been shown to generate the

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highest concentration of small polyphenols, it is also known that the last runnings of a continuous sparge contain the highest proportion of tannin-type polyphenols extracted from the husks. This happens when the pH of the mash rises as the buffering power of the malt acids is rinsed away from the grain bed. By using a batch sparge—where the final runnings typically don't fall below 1.020, or a no-sparge technique where no rinsing takes place to change the mash pH, you can prevent excessive tannin extraction into your wort.

Fixing Haze with Clarifiers and Finings

Now we come to the seaweed, fish guts and JELL-O®. You can add clarifiers to your wort and beer that will chemically and electro-statically pull haze formers out of solution and allow them to settle to the bottom. Irish moss and isinglass are probably the most common on a homebrewing level.

Irish Moss

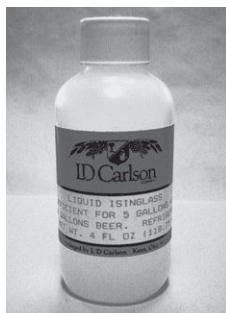
Irish moss is a type of red seaweed called carrageenans and preferentially attracts large proteins. Irish moss is the only clarifier that

you add to your boil. All other clarifiers are added after fermentation. Irish moss is added during the last 20 minutes of the boil where it greatly enhances the clumping and precipitation of the hot break proteins which would otherwise contribute to haze and staling reactions. In the past it was generally accepted that the proteins that caused haze were different from the proteins responsible for head retention. However, more recent studies^{2,3} show that the proteins are similar enough that any attempt to eliminate haze forming proteins via enzymes or non-specific protein absorbing additives like Bentonite will also affect the head retention and body of the beer.

I interpret this to mean that any protein rest for your mash or enzyme clarifiers in your wort are probably not a good idea. In addition, misuse of the right clarifiers can also be trouble. If too much Irish moss is used in the boil, the smaller proteins responsible for head retention can be affected, and could reduce the free amino nitrogen (FAN) that the yeast need for nutrition. For this reason, it is not recommended for use with malt extract/adjunct worts. Irish moss commonly comes as dry flakes that should be rehydrated before use. A typical dose is 1 teaspoon of flakes for 5 gallons of boil volume, or 1/8 gram per liter of boil. Another form of Irish moss that comes from Australia is Whirlfloc™, a large tablet you simply drop into your wort. Each tablet is good for a 5-gallon batch.

Isinglass

The other popular fining agent for homebrewers is isinglass, commonly used in English cask ales. Composed almost entirely of the protein collagen, it is obtained by cleaning and drying the swim bladders of sturgeon, cod, hake and other fishes. Isinglass primarily works on yeast haze. While it is able to bind to and settle some of the larger proteins, it is not very effective for reducing chill haze. Icinglass is sold as dehydrated powder to be used at 30 to 60 mg/liter dosage, but is most commonly available for homebrewers as liquid isinglass.



Liquid Icinglass

a ready-to-use liquid. It should be added to the fermenter or bottling bucket when you add your priming sugar solution, but do not attempt to heat it up because it is easily denatured. Two ounces of liquid will treat 5 gallons of beer.

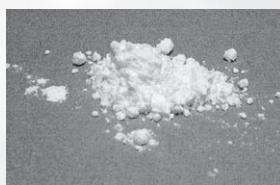
(You really have to wonder whose idea this was. "Igor, go get me some fish guts to add to the beer. What! Nothing fresh? Well just scrape some of that dried stuff off the cutting board there...")

Gelatin

Gelatin is a byproduct of the collagen extraction process from cow hooves and pigskin. It is not as effective as collagen at settling the yeast mass, needing about three times as much to do the same job. But it is much less expensive. Gelatin is mixed and combined with the beer the same as isinglass, but at levels of 60 to 90 mg/liter.

PVPP/Polyclar

Polyvinylpolypyrrolidone, also known as povidone, is a micronized white powder with a high surface-area-to-volume ratio that readily adsorbs polyphenols, including tannins.



PVPP

The necessary contact time is only a few hours. Commercially it is the most popular clarifier and stabilizer.

About 6 to 10 grams per 5 gallons (or 20 liters) is added after fermentation, prior to bottling. Brewers commonly combine this with cooled boiled water to form a slurry, then gently add it to the fermenter. The slurry needs to be mixed thoroughly with the beer and allowed to settle out (less than one day). Then the beer should be racked off the sediment and bottled or kegged. This material is not approved by the FDA for ingestion. Commercial breweries remove it by filtration.

Silica Gel

Silica hydrogels and xerogels are the other half of the one-two punch that commercial brewers use to control haze and improve shelf life. Where PVPP works to bind polyphenols, silica gel binds to proteins. In fact, it binds preferentially to haze-active proteins because chemically it reacts with the same sites on the proteins that the polyphenols do. Silica gel is used at the same

6 to 10 grams per 5-gallon (or 20-liter) rate and the same procedure as polyclar. Silica gel and PVPP work synergistically to reduce haze more than either would alone. A combined product called Polyclar Plus™ is available to commercial breweries, but I don't know if it has been packaged for a homebrewing scale. This material is not approved by the FDA for ingestion. Commercial breweries remove it by filtration.

Summary

Beer haze has many possible causes, but a hazy beer that tastes good is probably suffering protein/polyphenol haze. Luckily because it is common, it is also readily treatable by the use of different ingredients, including variations in your malt and hop varieties, as well as by additives like clarifiers and finings. Hopefully this discussion has helped you understand how these hazes form and how to best address the cause and solution in your own brewery.

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John Palmer developed an avid interest in beer during college and started homebrewing shortly after he got married. That first batch tasted like something mosquitoes would want to lay their eggs in, but that only motivated the engineer in him to figure out what went wrong and how to prevent it. A beer writer for the past 10 years, Palmer has appeared on the Home and Garden Channel's "What's Your Hobby" show and is the author of *How To Brew*. He is a member of the Crown of the Valley Brewing Club and lives in Monrovia, Calif.

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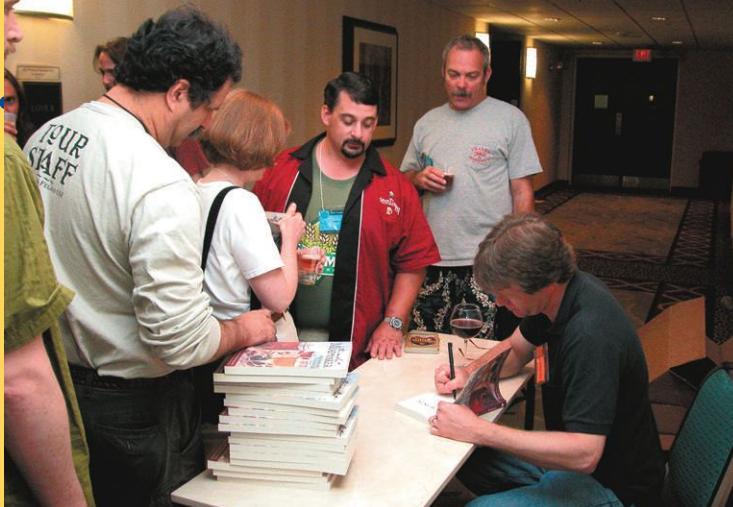
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Ken Schramm, author of *The Compleat Meadmaker*, signs books for meadmakers.



Ray Daniels talked about brewing historic English Ales — and served a three-day-old brew.



Members of Iowa Brewers Union and Ames Brewers league show off the Pissoir d'Or they won for bringing the most homebrew.

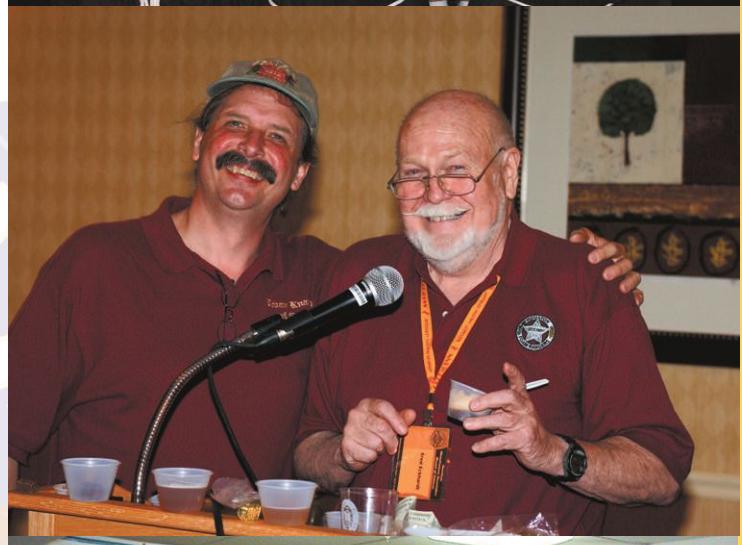


Helpers and tasters scurry for samples of cheesecake and brown ale during Fred Eckhardt's beer and chocolate tasting.

2003 National Homebrewers Conference....



The Urban Knaves of Grain strike a reverent pose while praying for a few more points in the Homebrew Club of the Year Competition.



Dr. Ed (Bronson) cuts in for a photo op during Fred Eckhardt's decidedly relaxed presentation.



Chris Graham and Beer, Beer & More Beer sponsored Club Night and set up a display in the hospitality suite.



Chicagoan Annette May talks about beers paired with cheeses during the "Real Beer, Real Food" talks.



Prison City Brewers' get-away vehicle.

America's homebrewers gathered near Chicago in June to sharpen their palates, expand their beer and food horizons and crown the best amateur brewers in America. The annual American Homebrewers Association national conference succeeded on all fronts, drawing more than 800 individual attendees, and in excess of 1,200 gallons of homebrewed beer. The conference also attracted professional craft brewers and beer and food enthusiasts to boost attendance to an all-time high for this annual Association of Brewers event.

"The attendance, enthusiasm and speaker lineup far exceeded our expectations," said Paul Gatzka, director of the AHA. "The Chicago area clubs created a lot of fun and excitement and more than two dozen additional clubs from around the country contributed through their attendance and homebrew."

"I can't imagine any better way to have hands-on contact with our customers and potential new customers, plus gaining tons of new ideas," said Chris Graham of Beer, Beer & More Beer of the conference. "As a homebrewer, it was the Mecca for brewing knowledge and talent. And as a beer lover, I thought the Chicago clubs did a fantastic job supplying great quality beer."

International beer authority Michael Jackson, a long time friend of American homebrewers, kicked off the conference by stressing the role that homebrewing played in

development of American craft brewing, now the envy of the beer-drinking world. His presentation, punctuated by the usual self-proclaimed digressions, kept the homebrew crowd amused while inspiring them with the greatness of the hobby. Other highlights of the conference included club night, judge training and the beer and food track on Saturday.

Thursday's annual Club Night found 25 different clubs vying for attention with homemade beers, foods and—as often as not—costumes. Groups dressed as bowlers, monks, prisoners and gangsters manned their booths while dishing out everything from Ohio sauerkraut balls to Texas barbecue and filling cups with everything from roasted pepper ale to oily black Imperial Stout.

The judging and sensory training common to these conferences blossomed in several ways this year, including presentations from Lyn Kruger of the Siebel Institute, Rex Halfpenny on behalf of the Beer Judge Certification Program, and Tom Fitzpatrick on how to conduct a beer flavor faults tasting. Particularly notable this year was Dr. Ed's House of Bad Beer Horrors which presented beer off-flavors in a Halloween-dungeon environment—complete with Dr. Ed Bronson in a Dracula costume and a display of spooky "beers" (not for consumption!) containing live leeches, aliens and other made-up horrors.

Talk of the Conference

Presentations covered a wide range of topics including brewing, beer culture and food.

The speakers ranged from renowned brewers and authors such as Charlie Papazian, president and founder of the Association of Brewers and the American Homebrewers Association; Ray Daniels, author of *Designing Great Beers* and editor of *The New Brewer* and *Zymurgy*; Peter Bouckaert, brewmaster of New Belgium Brewing Co. and former brewer at Rodenbach; Todd Ashman, brewer for Flossmoor Station Restaurant & Brewery; Tom Nickel, head brewer for Oggi's Pizza and Brewing Co.; and Larry Bell, founder and brewer of Kalamazoo Brewing Company.

The talks covered specific beer styles, such as German Lagers by Boscos' Fred Scheer, Kölsch by Roger Deschner and Belgian Ales by Gordon Strong, as well as brew-

ing ingredients and techniques. Homebrewing author Al Korzonas delivered a talk on brewing water, White Labs' Lisa White discussed Guerilla Lab Techniques and Chris (Crispy) Frey presented beers made from a single wort but each fermented with one of 17 different Belgian yeasts. In addition to these sorts of traditional brewing subjects, this year's program sought to include other food arts such as cheese making and sourdough bread baking as well as several talks on matching beer with food.

Lucy Saunders, author of *Cooking with Beer* and beercook.com, led off the beer and food section talking about techniques and approaches for cooking with beer. She was followed by Garrett Oliver, brewmaster of the Brooklyn Brewery and author of the recently published *The Brewmaster's Table: Discovering the Pleasures of Real Beer and Real Food*. His talk spanned the range of beers and food available for pairing.

Local beer and cheese experts Annette May and Giles Schnierle paired 13 beers with different cheeses with some surprising and always rewarding results. The overwhelming favorite of those present was an Alba Scots Pine Ale paired with an eight-year aged ched-



Cincinnati's Bloatarians kicked off the conference with a lively display of homebrew passion.

dar from Wisconsin's Carr Valley. Finally, the afternoon's parade of beer and food ended with dessert as Fred Eckhardt paired beer with a range of chocolate concoctions: Corsendonk Belgian Abbey Tripel with chile pepper fudge; Three Floyds' Robert the Bruce Scottish Ale with Belgian hazelnut milk

chocolate truffles; and Two Brothers' Brown Fox Ale with Eli's Chocolate Cheesecake.

Saturday night's event called "Real Beer, Real Food" was a walk-around tasting of food and beer open to the general public. "It's an attempt to cross-pollinate the craft food and beer worlds," said event organizer Randy Mosher. "We wanted to show people how many great combinations of food and beer there are, to show it off in its proper context. And as it has for

the BJCP for eight years and pillar in the homebrewing community.

In addition to the huge amount of homebrew available at club night, during the 24-7 hospitality suite staffed by 18 different clubs and in various presentations, both Rogue and Goose Island provided many kegs of their fine products for the conference meals and events. At one point on Saturday, there were 74 different homebrews from six clubs on tap.

"Over the course of about four days, there was never a time when you had to look for a good beer," said Joe Formanek, club liaison for the local organizing committee. "There was always one readily at hand!"

"We are obviously very happy with the results," said Jeff Sparrow, chairman of the conference organizing committee, which included representatives from Brewers of South Suburbia (BOSS), Chicago Beer Society (CBS) and Urban Knaves of Grain (UKG). Members of the organizing committee began work on this year's conference nearly two years ago to ensure its success and were rewarded with personalized trophies of a small copper brewhouse by the AHA. Sparrow also received a lifetime membership in the AHA—an honor that left the voluble organizer uncharacteristically speechless.

Rewarding Experience

Second-round judging of the AHA National Homebrew Competition was held on-site June 18-19 during the conference. The best of 3,340 beer and mead entries from U.S. and Canadian homebrewers that advanced to the second round of the competition were judged.

Winners were announced at the banquet and were awarded gold, silver or bronze medals in 29 style categories. This issue of *Zymurgy* has a complete listing of the winners as well as a special edition of "Winners Circle" with first-place recipes and profiles of the top award winners.

A highlight of the awards was the crowning of Homebrewer and Homebrew Club of the Year. Bruce Stott of Hop River Brewers in Rockville, Conn. was named Homebrewer of the Year for his Cee Cee Schwarz beer. Homebrewer of the Year, sponsored by Muntons P.L.C., is given to the Best of Show beer from the 24 beer categories. Homebrew Club of the Year, sponsored by Coopers

Brew Products, went to QUAFF for the third year in a row, making them only the second club ever to secure the award for more than two years running.

The Ninkasi Award, sponsored by Boston Beer Company, is given to the winningest brewer in the 24 beer categories, with 6 points for a gold medal, 4 points for a silver medal and 2 points for a bronze medal. For the second year in a row the award went to Curt Hausam of Salem, Ore.

Meadmaker of the Year, sponsored by Redstone Meadery, was given to Paul Zocco of Andover, Conn. This award is given to the Best of Show mead from the three mead categories. Cidermaker of the Year was awarded to Steve Olson of Menasha, Wis., and is given to the Best of Show from the cider category.

Tony Simmons of Colorado is the lucky AHA member whose name was drawn during the awards banquet for the Lallemand Scholarship. The Lallemand Scholarship awards one AHA member with the full cost of a two-week Concise Course to the Siebel Institute valued at \$2,750 and a \$1,000 stipend to assist with travel and accommodations.

The 2003 National Homebrewers Conference sponsors were Goose Island, Rogue Ales, Tote-a-Keg, Wyeast Laboratories, Inc., Beer Beer & More Beer and White Labs.

This article was created through a joint effort of AOB staff and Chicago-based conference committee members.

**The masked man of amateur brewing.
Captain Homebrew.**



Zoot-suited members of F.O.R.D. pose with their "wheels."

the last few thousand years, it makes for a pretty enjoyable party." More than 750 guests enjoyed American and imported craft beer of every description along with artisanal cheese, smoked meats and sausage, pickles, bread, beer-infused cheesecake and ice cream.

Too Much To Believe?

"You guys made a mistake," said author and conference speaker Ken Schramm at one point during the three-day event. "You forgot Elvis' rule to 'Always leave 'em wanting more.' You gave them everything!" During the conference, Schramm spoke about his passion for mead and signed 200 copies of his new book from the Association of Brewers, *The Compleat Meadmaker*.

The conference banquet, sponsored by Rogue Ales, was held Friday evening with more than 500 guests. As customary, the AHA Board of Advisers Recognition Award was presented, this year to Russ Wiglesworth, a volunteer administrator with



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That's a Good Looking Beer!

By Mark Tumarkin

On "Saturday Night Live," Billy Crystal's character Fernando used to say, "It's better to look good than to feel good, and dahling, you look mahvelous." Well, I wouldn't go quite that far with beer. How it tastes is certainly more important than how it looks, but appearance can tell us a lot about what's in our glass before we even take a sip. That is, if we bother to really look at it. Appearance is underrated even when it comes to judging beer. On the 50-point scale, appearance is given a mere 3 points; one each for color, clarity and head (including retention, color and texture). This slight attention to the visual aspects of the brew has always seemed too meager to me. ►

Perhaps this feeling that we should attend more closely to the visual aspects of beer began with my experience judging meads, where appearance is worth 5 points in the total scale. While this does not seem like much of a difference, it is important. Mead is more similar to wine than it is to beer, and is judged more like wine than beer. As beer judges, our first action is to put the glass to our nose and inhale. In judging wine, one starts by holding up the glass and looking at color and clarity, the disc or meniscus, body and legs. A tremendous amount of information is available for consideration before the glass ever approaches the nose or lips.

My feelings regarding this matter may have originated in an e-mail exchange I had several years ago with Hans Aikema, a Dutch homebrewer and judge, about how the Dutch judge beer. Dutch homebrew judges give appearance 30 out of a possible 100 points. While I think that this places too much emphasis on appearance, I would like to see North American judges give it a bit more attention. Indeed, appearance used to be worth 6 points before the BJCP score sheet was redesigned in the mid-1990s.

To be fair, there is a danger in placing too much emphasis on appearance. With some inexperienced judges, appearance can overly affect their total assessment of the beer, for good or bad. I have heard this called the halo effect. We should also consider the flavor

implications when observing appearance, looking for clues about what we'll taste.

Seeing the Light

While the appearance of beer is important to the brewer, drinker or judge because it often indicates product quality, the way beer looks in the glass hasn't always been an issue. It is only relatively recently that beer has even been served in glass containers. Historically, beer was consumed from containers made of leather, pottery, metal or wood. All these materials were opaque and the beers themselves tended to be dark and cloudy as well. Under those circumstances, appearance just wasn't very important.

With the advent of the Industrial Revolution, several developments occurred that would change this. First, coke and kilns allowed for the less expensive production of pale malt, which had previously been very expensive. This allowed for the common production of paler, lighter beers. Secondly, mass production made glassware cheap and abundant. It may not be entirely coincidence that Bohemian crystal and Czech Pilsners come from the same area. Although Bohemian crystal had been famous for centuries, in the early 1800s industrial production made glassware much more readily available. With the growing popularity of the new light-colored lagers from Pilsen in the mid-1840s, a beer's appearance became much more important.

Britain saw a similar increase in availability and decrease in prices. This was a large factor in the move from brown ales and porters to lighter, pale ales.

Once glasses came into common use, drinkers could see their beer as they drank it—and as with many things in our culture, looks became very important. The patrons began to evaluate the beer in front of them for color, clarity or haziness, the head or foam stand, all of which provide information or clues as to the quality and character of the beer about to be consumed. For many, if it looked cloudy or otherwise imperfect, it must taste imperfect as well.

At The Judge Table

Now let us return to modern times. When we judge a beer, we compare the beer in front of us to the BJCP Style Guidelines in an attempt to see how closely the beer we are judging matches the described standard. A judge starts getting information about a beer even before it is opened. This starts with a bottle inspection: we look at the bottle for fill level, neck rings or floating objects, and the absence or presence of yeast at the bottom. This inspection can tell us such things as whether or not the beer was bottle conditioned, or can indicate a possible infection or oxidation in the beer.

As the beer is poured and comes to rest in the cup, we begin to gather a great deal of visual information starting with color. Color results primarily from the malts used in brewing. When we're considering a particular style, color is a vital source of information about how close the beer comes to the standard. For example, you wouldn't expect to see the dark browns, reds or blacks from highly kilned specialty malts like chocolate or roast barley in a Pilsner, just as you wouldn't expect to taste these flavors in this style.

In addition to ingredients, brewing process and technique can impact color. Maillard reactions have a huge impact on both beer color and flavor. The products of Maillard browning are perhaps the major source of beer color as well as contributing to malty rich flavors (both in malt and the resulting beer). Caramelization is a related but different source of color. A long boil time can cause the malt to caramelize, giving a darker color to the beer. The longer boiling can also have a cor-

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responding impact on the flavor of the beer. While this would lend an appropriate rich maltiness to a Scottish Ale, it would not fit the appearance or flavor expected in a Kolsch.

Oxidation of polyphenols, or tannins, also has a major impact on both color and flavor in beer. Although most judges are familiar with both the positive (sherry/nutty or dark fruit notes) and negative (papery/cardboard stalting) flavor impact of oxidation, many are not aware of the color implications. Polyphenols react with oxygen in the boil to contribute red or brown darkening to the beer. This is well known to wine judges who will often tilt the glass on its side and look for tell-tale browning at the thin edges of the wine.

While judging, we look for a color range consistent with the style. Some styles have a very narrow range of color, like the aforementioned Kolsch, which has an SRM range of only 1.5 units, from 3.5 to 5 SRM. Counter this with a style that has a much broader spectrum, such as Eisbock. The BJCP guidelines allow for a huge 32 SRM unit spread, from a moderate 18 to a very dark 50. In addition to the malt color and boil time, other aspects of the brewing process can also affect color. Fining or filtration can remove beer-darkening particles. Oxidation, in the brewing process or in the bottle, can darken a beer and impact the flavor.

All is Clear

Clarity is another factor we look at when judging beer. A brilliantly clear Czech Pilsner is a thing of beauty. Each bubble is displayed in perfect detail as the sparkling light reflects through the glass. For such a light beer, this level of clarity is expected in order to meet the style guidelines. On the other hand, some beer styles are expected to be cloudy. Part of the allure of pouring a Hefeweizen is to swirl the bottle to rouse the yeast sediment into suspension, producing a cloudy, churning beer. Aside from styles that are naturally cloudy from yeast or high wheat content, there are many things that can contribute to poor clarity or that help to achieve brilliant clarity. These include techniques such as good recirculation and lautering, filtering to remove protein or yeast particles that can contribute to poor clarity, or fast wort chilling to coagulate and drop out hot and cold break materials.

Fining or filtering are both used to remove as much of the particulate matter as possible including yeast, polyphenols, proteins and tannins. While removal of these particles improves clarity by addressing both chill haze and permanent biological or chemical haze, such methods do not generally impact beer flavor. However, a beer with good clarity can be cleaner tasting and is certainly more stable for long


*A brilliantly clear
Czech Pilsner is a
thing of beauty. Each
bubble is displayed in perfect detail
as the sparkling light reflects
through the glass.*

term storage. Also, there are certainly implications of haze that go beyond appearance to impact flavor.

We all know that the first three rules of brewing are sanitation, sanitation and sanitation. Good sanitation is critical to avoid bacterial infections. These infections can greatly affect the appearance of beer by causing cloudiness, neck rings, floating

objects or gushing. In the U.K., where culling beer is an art, a hazy pint will often be refused for fear of bacterial infection. Bacteria can feed on proteins that won't be consumed by yeast. Over time, that haze can lead to flavor degradation and gushing over carbonation as the bacteria party on.

Fun with Foam

Head is the final factor in appearance that we evaluate when scoring a beer for competition. We look at head in terms of formation, retention, color and texture. The head is created by bubbles formed as carbonation breaks out of solution and is trapped by proteins and other foam-forming compounds in the beer. Some grains such as crystal malt, malted and unmalted wheat, dextrin malt and flaked barley can improve head formation and retention. One rule of thumb for good head retention is to see if approximately one half the original head remains after one minute has passed.

A number of factors can kill or reduce beer foam. Glassware contaminated with dirt or detergent residue prevents head from fully and properly forming. High gravity beers may form little or no head due to the thinning qualities of alcohol. Some fining agents such as bentonite can strip head-forming proteins from beer. And, while a good head is important, too much head can also be a problem. This can be caused by a

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Determining Beer Color *

Beer or grain color has long been measured by the Lovibond scale, expressed as degrees L, developed by J.W. Lovibond in 1883. Several methods were used; one of the most common used standard glasses or bottles filled with gradually intensifying colored solutions. These were visually compared to the beer (or wort) being evaluated.

Americans now measure beer color using a spectrophotometer according to the SRM (Standard Reference Method) color scale as published by the American Society of Brewing Chemists. The numbers on the Lovibond and SRM scales are essentially equivalent and are often used interchangeably. In Europe, the EBC (European Brewing Convention) scale is used to measure color. Because it is derived by very similar photometric means¹, this is linearly proportional to SRM by a factor of nearly two. For precise conversions from SRM to EBC, multiply the SRM value by 1.97, or divide the EBC by 1.97 to get the SRM. As a quick rule of thumb, you can think of EBC number as being twice the SRM.

For the accurate determination of SRM numbers, a photo spectrometer is necessary. This equipment is generally not found in most home breweries (or at the judging table). However, it is possible to come close enough for homebrewing or judging purposes through visual comparison. Dennis Davison developed and marketed a small strip of transparent film with color gradations as a judging tool. It is called the Davison Color Chart. While the Color Chart is not as accurate as a photo spectrometer, and can be affected by the size of the cup used, lighting conditions and background, it is still a useful tool. It is similar in concept, though much more portable, to the earlier Lovibond bottle sets. It is best used with the standard AHA judging cups filled to about 1 to 2 inches. The beer is then compared to the strip, ideally in diffuse daylight. Although it is no longer being made and distributed, the Color Chart can sometimes still be found on dusty back shelves at homebrew stores. If you ever come across some, buy as many as are available. Your judge friends will thank you.

There are other ways to learn to recognize SRM color accurately enough for judging purposes. Some brewing software, such as ProMash, will display SRM colors for a recipe. Keep in mind that computer monitors will affect how the color appears onscreen. However, Promash includes a calibration utility to compensate for differences in monitor settings. By paying attention to this aspect of the program, judges can learn not only to recognize SRM colors, but how changing the amounts of various ingredients can impact the resulting color of the beer. You can also use commercial beers for comparison. SRM color is often available for a particular beer on manufacturers' Web sites. Ray Daniels has a very useful chart on page 45 of his book *Designing Great Beers* that uses common commercial beers to span the SRM scale from the very pale Budweiser (with an SRM of 2) to the black, opaque Stouts (with an SRM of 40 or more). With practice, you can learn to determine reasonably accurate SRM ranges.

¹Both SRM and EBC color are currently determined by photometer readings at a wavelength of 430 nm. The difference in values between the two systems arises from the standard cell width specified and the factors applied to the resulting absorbance readings.

variety of things such as over-carbonation, bacterial infection or excessive proteins. Excessive head detracts from the overall appearance and appreciation of the beer and even blocks a judge from assessing the aromas of the beer.

A perfect head comes in many forms. Wheat beers throw heads that are tall and

fluffy. Beers like Guinness that are poured on draft with a mixture of nitrogen and CO₂ produce a thick and luxurious head above a bubbly cascade inside the glass in a show that can last for a minute or two. Some beers will leave delicate rings of foam down the side of the glass following each sip, producing a so-called Belgian Lace.

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Drink With Your Eyes *

As you've seen, much can be learned about a beer from its appearance, even before you taste it. Judges consider many factors when judging the appearance portion of a beer and some of those same factors come into play when friends sit down to enjoy a pint of brew.

Beyond what the brewer does, beer appearance is also affected by presentation and pouring. Think about the many and varied styles of Belgian beer glassware. For the proper sensory impact, each beer should be served in the proper glass. Or consider the long, slow pour as the barman in an Irish pub pulls a perfect pint of Guinness versus the German barmaid as she upends that weizen bottle into its large, tall glass. So, next time you find yourself with a glass of beer, take a good, long look at it first, and then remember Fernando as you think, "Dahling...You look mahvelous!"

Mark Tumarkin has been brewing since 1995. He is currently a member of the AHA Board of Advisers, an active BJCP judge and a member of the executive committee for his homebrew club, the Hogtown Brewers, in Gainesville, Fla.

Rogue Ale Brewery: Pirate of the Amber Waves

By Amahl Turczyn Scheppach

In 1988 Rogue Ales was founded by entrepreneurs Jack Joyce, Rob Strasser and Bob Woodell. The three decided to give up on the corporate world and break into the food and beverage industry, so they pulled together a 10-barrel brewpub in Ashland, Ore. Ashland is located in the Rogue River Valley in southern Oregon, surely an inspiration for the company name. Capitalizing on its success, the trio opened a second Rogue location in Newport, Ore. the following year, but disaster struck the Ashland pub. Two weeks of solid rain (11 inches fell in a period of four days) combined with a heavy snowpack melt-off resulted in a New Year's Day flood that demolished many Ashland businesses, the pub included.

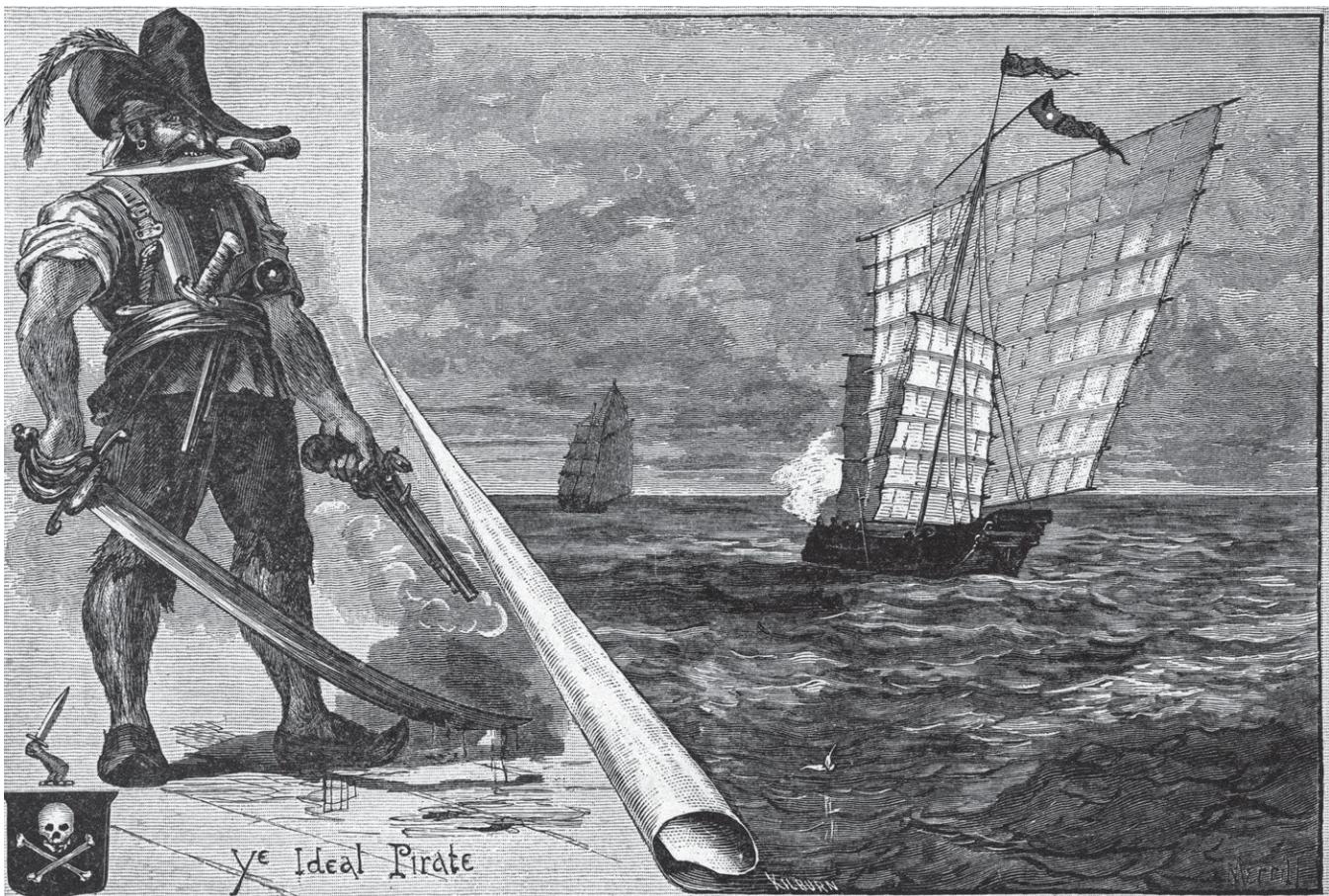
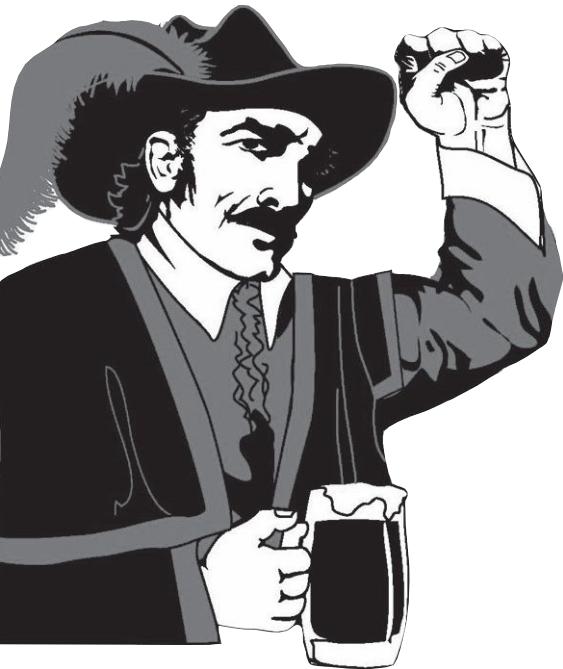


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Focusing on the new site, Joyce, Strasser and Woodell moved the brewery again in 1991, this time just across the bay in Newport, where the brewery now resides. The 15-barrel brew system then in use (named Howard, after brewer John Maier's former boss) was upgraded to a 30-barrel system. Finally, in 1998, the brewery underwent its most recent expansion to a 50-barrel system, named Kobe.

From this system, the brewery currently puts out nearly 30,000 barrels a year. Part of this production goes to supplying the other Rogue pubs that opened in the 1990s.

The Rogue Brewpubs

One such brewpub, Newport's Brewers on the Bay, is a bed-and-breakfast brewpub where Rogue ale fans can enjoy their favorites on tap, then stay the night in a cozy room upstairs. Two satellite pubs were also opened in farther-reaching locations. Portland's Rogue Brew Pub and Eatery opened on Flanders Street, in the industrial-warehouse Pearl district, taking over Portland Brewing's old site. Rogue also took over the former Issaquah Brewhouse in Issaquah, Wash., about a 30-minute drive east of Seattle. And according to Rogue's Lou Bank, as of this writing, a new Rogue pub is set to open in San Francisco. But despite all this growth, Rogue has

stayed true to its small-brewery style, continuing to tweak and experiment with its lineup, which now boasts 23 regular and seasonal beers.

Community Spirit

Any craft brewer knows that to build a following, you need to build ties with your community. Participating in fund-raising projects, festivals and charities not only gets your products exposure, but builds an extremely valuable positive image in the minds of the local populace, beer drinkers or not. Rogue not only supports local hop growers as well as small producers of some of their specialty ingredients, the brewery also helps to fund larger initiatives like the Oregon Coast Aquarium, their neighbor in Newport. In 2001, a special bottling of Rogue's favorites received an alternate sea creature name

of creative latitude in his beer formulation. From juniper berries to chipotle peppers to chocolate, Rogue's beers have gained a reputation for their style-busting individuality. So it is no surprise that Maier's fascination with brewing unique beers is deeply rooted in homebrewing, which became a passion for him as early as 1981.

Maier loved homebrewing so much, he quit a job with Hughes Aircraft to attend the Siebel Institute Diploma course in Chicago in 1986, and began his

professional brewing career at Alaskan Brewing Company the following year. But that didn't stop him from continuing to brew at home—in 1988, the same year Rogue was founded, Maier won the AHA Homebrewer of the Year Award. At the main Rogue brewery, Maier still uses a 20-gallon pilot system to create new concoctions, many of which find their way into pubs as new brands.

Brewing Rogue Ales at Home: Ingredients

This continued tie to homebrewing benefits brewery sales and homebrewing Rogue ale fans alike. It's no secret that homebrewers are some of the craft brewing industry's staunchest supporters, so Rogue's openness with its products' brewing specifications can be seen as a tip of the hat to those who want to emulate Rogue ales at home. Gravity, bitterness, color and apparent attenuation are listed right on the bottle. Company president Jack Joyce came up with the idea, realizing that the benefits of this disclosure would far outweigh the threat of any rival brewers copying his brands.

But Rogue is not forthcoming about all ingredients. While the so-called "free-range coastal water" used to brew Rogue ales may also be fairly easy to emulate, the yeast, dubbed "Pac-man," is strictly a proprietary strain. We do know it is clean-tasting, with good attenuation, and that Maier ferments all of his ales at 60° F. But if you are looking to brew any Rogue clone, you won't be able to get this strain from a yeast supplier, though many speculate BrewTek's Cali-

ROGUE

and were sold with a different label, with a share of the proceeds going to the OCA in its mission to educate about the ocean and its environment. American Amber, for example, was bottled as Sea Otter Amber; Oregon Golden Ale was bottled as Shark Tooth Ale. Whale Ale was produced to commemorate killer whale Keiko's rehabilitation at the OCA. There was even a Spiny Lumpsucker Ale.

Most recently, Rogue did a Beer Chili Cook-off in Portland, with 20 different kinds of chili and lots of fresh Rogue ale to quench the heat. Proceeds from this benefit went to the families of deployed U.S. military forces.

A Rogue of a Brewmaster

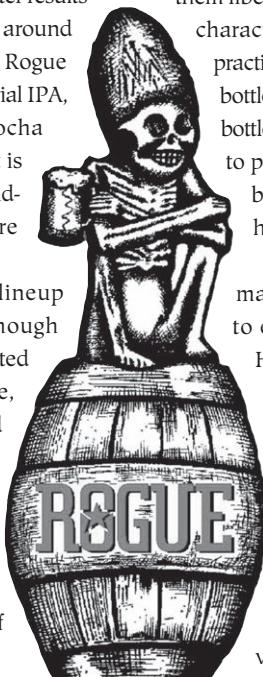
The impetus for Rogue's creative spirit is brewmaster Maier. From the beginning, the brewery's founders allowed Maier plenty



Juniper berries find their way into Rogue's Yellow Snow, local wildflower honey into Honey Cream Ale, chocolate into Chocolate Porter, and smoke-dried jalapeño peppers into Mexicali Rogue.

ifornia Pub Ale (CL-50) is the Pacman strain. Any California or American ale yeast can be substituted, but you may get better results fermenting these a bit warmer, around 68° F (20° F). There are a few Rogue ales, like Old Crustacean, Imperial IPA, Shakespeare Stout and Mocha Porter, that are unfiltered, so it is conceivable that laboratory-minded homebrewers could culture Pacman from the bottle.

Nearly the entire Rogue lineup uses the Pacman strain, though Maier has occasionally fermented with other strains. For example, a Czech lager yeast was used for an Imperial Pilsner made especially for the 1999 Oregon Brewer's Festival, and a Belgian ale yeast was used for Brew 5000, a Begian Dubbel, and Maier's 5,000th batch of beer at Rogue.



Maier generally favors Pacific Northwest varieties of hops in his ales, and he uses them liberally. This is not only done for the character of his beers, but for the more practical reason of preserving them in the bottle. Rogue does not use an arbitrary bottle-dating system, but prefers instead to prolong shelf life the natural way, boosting hop bitterness and/or alcohol to combat mishandling.

Grain ranges from a usual base malt of Great Western 2-row pale to expensive imported malts like Hugh Baird, Weyermann and Maier. Rogue once used floor-malted Beeston Pipkin malt, but Maier switched over to Hugh Baird when Beeston was no longer available.

And then there are those "other ingredients." Always looking to create new variations on old classics, Rogue

has released several ales with non-traditional ingredients. But for Maier, artificial flavorings won't cut it for his beers—special ingredients must meet a rigorous quality standard, and while that may mean more work for the brewing team, it is a commitment much appreciated by Rogue fans. For the Portland Rose Festival in 2000-2001, Maier brewed a version of Rogue's famous Oregon Golden Ale using 30 pounds of organically grown rose petals per batch. Rogue Smoke, a perennial medal winner at the Great American Beer Festival (seven medals in nine years!), is a version of the classic German Rauchbier modeled after Schenkerla. While Maier does use a small proportion of Bamberg smoked malt, the majority of the smoke flavor comes from locally available alder and beech wood. Though no longer available, a "Rogue-N-Berry" ale was brewed with locally grown marionberries, a hybrid of blackberry, loganberry and raspberry varieties. Juniper berries find their way into Rogue's Yellow Snow, local wildflower honey into Honey Cream Ale, chocolate into Chocolate Porter, and smoke-dried jalapeño peppers into Mexicali Rogue. And the list goes on.

Brewing Rogue Ales at Home: Recipes

From the results of the *Zymurgy* readers survey (for full results, see July/August 2003 *Zymurgy*), we know Rogue ales are



Rogue Dead Guy Ale Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,
70% efficiency.

OG: 1.068 (16.5° P)

IBU: 49

All-Grain Wort Production

- 8.0 lb (3.6 kg) Great Western 2-row pale malt
- 2.0 lb (0.9 kg) Munich malt
- 1.0 lb (0.45 kg) 15° L crystal malt

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boiled wort.

Extract Plus Grains Wort Production

Steep crystal malt in 150° F (65° C) water for 20 minutes. Omit Munich. Strain, add 9.25 lb (4.2 kg) light malt extract syrup and proceed with boil.

Wort Processing

- 1.0 oz (28 g) Perle pellet hops, 8% alpha acid (90 min)
 - 0.5 oz (14 g) Saaz pellet hops, 4.3% alpha acid (10 min)
 - 1.0 tsp (5 mL) Irish moss (20 min)
- BrewTek California Pub Ale (CL-50) yeast or equivalent

Boil 90 minutes. Cool to 60° F (16° C) and pitch yeast. Ferment at 60° F (16° C) until fermentation is complete, then siphon into secondary. Allow to remain at cold storage temperatures 40-50° F (9-10° C) for two to four weeks, then package and condition.

popular; a whopping 12 were voted as your favorite beers. The following clone recipes of those favorites are based on information provided by the Rogue Ales brewery. Each of these 5-gallon recipes assumes a 70-percent efficiency and a 90-minute boil. Maier

uses only pelletized hops at Rogue, even for dry additions. The descriptions of each beer come from Rogue's Web site at www.rogue.com. So try your hand at these, and as always, if you think you can brew a better clone, please let us know!

Amahl Turczyn Scheppach is a veteran commercial and home brewer and brewing author who resides in Lafayette, Colo. He would like to express special thanks to John Maier and Lou Bank at Rogue for their help with recipe formulation and brewery information.

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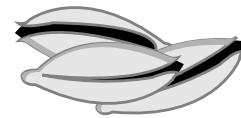
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Rogue Dead Guy Ale (17)

"In the early 1990s Dead Guy Ale was created as a private tap sticker to celebrate the Mayan Day of the Dead (November 1, All Souls Day) for Casa U Betcha in Portland, Ore. The Dead Guy design proved popular and was incorporated into a bottled product a few years later with Maierbock as the elixir. Strangely, the association with the Grateful Dead is pure coincidence. Dead Guy is a German-style Maibock made with Rogue's proprietary 'PacMan' ale yeast. It is deep honey in color with a malty aroma, rich hearty flavor and a well balanced finish."

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Rogue Shakespeare Stout (18 T)

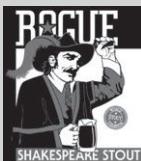
"Rogue's Shakespeare Stout is ebony in color, a rich creamy head and a mellow chocolate aftertaste." Need we say more?



Rogue Brutal Bitter (46 T)

"An imperial bitter style using exotic traditional floor malts, citrus hoppy flavor, stupendous hop aroma. Rogue brewer John

Maier describes his Brutal Bitter as a cross between a Very Extra Special Bitter and an India Pale Ale. Brutal Bitter was first brewed in 1996 for the 20th Anniversary of the Horse Brass Pub in Portland. Customer demand prompted Rogue to continue brewing Brutal for the Horse Brass as well as using it as Rogue's premier pour at the 1998 Oregon Brewers Festival. At the 1999 SpringFest in Portland, Ore., Brutal Bitter was unscientifically voted the People's



Rogue Shakespeare Stout Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,

70% efficiency.

OG: 1.060 (15° P)

IBU: 69

All-Grain Wort Production

11.0 lb (5 kg) Great Western 2-row pale malt

0.5 lb (227 g) 120° L crystal malt

0.5 lb (227 g) chocolate malt

0.5 lb (227 g) rolled oats

3.0 oz (85 g) roast barley

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boil wort.

Extract Plus Grains Wort Production

Steep specialty malts and roast barley and oats in 150° F (65° C) water for 20 minutes. Strain, add 7.5 lb (3.4 kg) light malt extract syrup, then proceed with one-hour boil, adding hops at specified intervals.

Wort Processing

1.0 oz (28 g) Cascade pellet hops, 5% alpha acid (90 min)

1.0 oz (28 g) Cascade pellet hops, 5% alpha acid (60 min)

1.0 oz (28 g) Cascade pellet hops, 5% alpha acid (30 min)

1.0 oz (28 g) Cascade pellet hops, 5% alpha acid (knockout)

1.0 tsp (5 mL) Irish moss (20 min)

BrewTek California Pub Ale (CL-50) or equivalent

Boil 90 minutes with additions shown above. Cool to 60° F (16° C) and pitch yeast. Ferment at 60° F (16° C) for one week, then siphon into secondary. Hold in secondary at 60° F (16° C) until fermentation is complete, then package and condition.



Rogue Brutal Bitter Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,

70% efficiency.

OG: 1.060 (16° P)

IBU: 59

All-Grain Wort Production

11.5 lb (5.2 kg) Hugh Baird 2-row pale malt

0.5 lb (227 g) 40° L crystal malt

0.5 lb (227 g) 15° L crystal malt

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boil wort.

Strain, add 8.75 lb (3.9 kg) light malt extract syrup, then proceed with one-hour boil, adding hops at specified intervals.

Wort Processing

1.5 oz (43 g) Crystal pellet hops, 5% alpha acid (90 min)

1.5 oz (43 g) Crystal pellet hops, 5% alpha acid (60 min)

1.5 oz (43 g) Crystal pellet hops, 5% alpha acid (15 min)

1.5 oz (43 g) Crystal pellet hops, 5% alpha acid (knockout)

1.0 tsp (5 mL) Irish moss (20 min)

BrewTek California Pub Ale (CL-50) or equivalent

Boil 90 minutes with additions indicated above. Cool to 60° F (16° C) and pitch yeast. Ferment at 60° F (16° C) for one week, then siphon into secondary. Hold in secondary at 60° F (16° C) until fermentation is complete, then package and condition.

Extract Plus Grains Wort Production

Steep specialty malts in 150° F (65° C) water for 20 minutes.

Choice—it received twice as many votes as the runner-up."

Crystal is the only hop used in Brutal and it provides a massive amount of aroma without dry-hopping.



Rogue Imperial IPA (#46 T)

"Above and beyond an India Pale Ale—IPA is radically hopped with an intense aroma and hop bitterness. Unfiltered and

aged for nine months before it leaves the brewery—not for the faint of heart."



Saint Rogue Red (46 T)

"Reddish copper in color, a roasty malt flavor with a hoppy spruce finish. Saint Rogue Red Dry Hopped is a draft only variation with raw Centennial hops added to the keg, giving the beer an increased hop finish and intense hop aroma."

Rogue Younger's Special Bitter (46 T)

"Our original Rogue Ale, Younger's Special Bitter (affectionately nicknamed YSB) is a classic English Special Bitter named after Bill Younger of the infamous Horse Brass Pub in Portland, Ore. In the Southwest Brewing News February/March 1994 issue, George Fix wrote, 'A strong case could be made for Rogue Ale being included among the top five ales brewed in the U.S.' YSB is amber in color with a mild hoppy finish."



Rogue Imperial IPA Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,
70% efficiency.

OG: 1.080 (20° P)

IBU: 53

All-Grain Wort Production

15.0 lb (6.8 kg) Hugh Baird 2-row pale malt

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boiled wort.

Wort Processing

1.0 oz (28 g) Cascade pellet hops, 5% alpha acid (90 min)

1.5 oz (43 g) Sterling pellet hops, 5% alpha acid (45 min)

1.0 oz (28 g) Saaz pellet hops, 5% alpha acid (30 min)

2.5 oz (71 g) Amarillo pellet hops, 5% alpha acid (dry)

1.0 tsp (5 mL) Irish moss (20 min)

BrewTek California Pub Ale (CL-50) or equivalent

Boil 90 minutes. Cool to 60° F (16° C) and pitch yeast. Ferment at 60° F (16° C) for one week, then siphon into secondary with dry hops. Allow to remain on dry hops at 50-55° F (10-13° C) until fermentation is complete, then package and condition.

Extract Plus Grains Wort Production

Add 11.5 lb (5.2 kg) light malt extract syrup to brewing water and bring to a boil adding hops at specified intervals.



Saint Rogue Red Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,
70% efficiency.

OG: 1.051 (13° P)

IBU: 44

All-Grain Wort Production

6.0 lb (2.7 kg) Great Western 2-row pale malt

1.0 lb (0.45 kg) Hugh Baird Munich malt

1.0 lb (0.45 kg) Hugh Baird 15° L carastan malt specialty

1.0 lb (0.45 kg) Hugh Baird 40° L carastan malt

1.0 lb (0.45 kg) Hugh Baird 75° L crystal malt

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boil wort.

Extract Plus Grains Wort Production

Steep carastan and crystal malts in 150° F (65° C) water for 20 minutes (omit Munich). Strain, add 5.5 lb (2.5 kg) light malt extract syrup and proceed with one-hour boil, adding hops at specified intervals.

Wort Processing

1.5 oz (43 g) Chinook pellet hops, 10.9% alpha acid (90 min)

1.0 oz (28 g) Centennial pellet hops, 10.5% alpha acid
(knockout)

1.0 tsp (5 mL) Irish moss (20 min)

BrewTek California Pub Ale (CL-50) or equivalent

Boil 90 minutes. Cool to 60° F (16° C) and pitch yeast. Ferment at 60° F (16° C) for one week, then siphon into secondary. Hold in secondary at 60° F (16° C) until fermentation is complete, then package and condition.

Rogue Old Crustacean (77 T)

"An unfiltered and unfined barleywine. Intense, robust, malty and dark. A huge beer in a little bottle, this is a beer designed for sipping."



Rogue Smoke (77 T)

"Rogue Smoke (previously known as

Welkommen on draft) is a German style Rauchbier which was inspired by the fall of the Berlin Wall. Most Rauch brews are bottom fermented, however Rogue Smoke is top fermented. It is orange-amber in hue with a delicate smoke aroma and flavor with an intense hop finish. Alder wood, indigenous to the Northwest, is the smoking agent, though a small amount of Bamberg malt is used in the mash, too. Beech is

drier than alder, reports brewmaster John Maier, so we use a little of that for added complexity. Welkommen, a smoky, nutty ale, is also very dry, which, given the 15 pounds of hops (Perle and Saaz) added to each 15-barrel batch, is no surprise. The seven medals in nine years which Rogue Smoke won at the Great American Beer Festival in Denver are also a tribute to this unusual brew."



Rogue Younger's Special Bitter Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,
70% efficiency

OG: 1.047 (12° P)

FG: 1.013

IBU: 35

All-Grain Wort Production

9.0 lb (4 kg) Great Western 2-row pale malt

0.5 lb (227 g) 60° L crystal malt

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boiled wort.

Extract Plus Grains Wort Production

Steep crystal malt in 150° F (65° C) water for 20 minutes. Strain, add 6.5 lb (3 kg) light malt extract syrup and proceed with one-hour boil, adding hops at specified intervals.

Wort Processing

- 1.0 oz (28 g) Willamette pellet hops, 5% alpha acid (90 min)
 - 1.0 oz (28 g) Yakima Golding pellet hops, 4.75% alpha acid (45 min)
 - 1.0 oz (28 g) Yakima Golding pellet hops, 4.75% alpha acid (30 min)
 - 1.0 oz (28 g) Amarillo pellet hops, 5% alpha acid (knockout)
 - 1.0 tsp (5 mL) Irish moss (20 min)
- BrewTek California Pub Ale (CL-50) or equivalent

Boil 90 minutes. Cool to 60° F (16° C) and pitch yeast. Ferment at 60° F (16° C) for one week, then siphon into secondary. Hold in secondary at 60° F (16° C) until fermentation is complete, then package and condition.



Rogue Old Crustacean Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,
70% efficiency.

OG: 1.108 (26° P)

IBU: 120

All-Grain Wort Production

19.5 lb (8.8 kg) Great Western 2-row pale malt

0.5 lb (227 g) Hugh Baird Munich malt

2.0 lb (0.9 kg) Hugh Baird 40° L carastan malt

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boiled wort.

Extract Plus Grains Wort Production

Steep carastan malt in 150° F (65° C) water for 20 minutes (omit

Munich). Strain, add 14.5 lb (6.6 kg) light malt extract syrup and proceed with one-hour boil, adding hops at specified intervals.

Wort Processing

- 1.5 oz (28 g) Chinook pellet hops, 10.9% alpha acid (90 min)
 - 1.0 oz (43 g) Chinook pellet hops, 10.9% alpha acid (45 min)
 - 1.0 oz (28 g) Chinook pellet hops, 10.9% alpha acid (30 min)
 - 2.0 oz (28 g) Centennial pellet hops, 10.5% alpha acid (knockout)
 - 1.0 tsp (5 mL) Irish moss (20 min)
- BrewTek California Pub Ale (CL-50) or equivalent

Boil 90 minutes. Cool to 60° F (16° C) and pitch yeast. Ferment at 60° F (16° C) for three to four weeks, rousing yeast if necessary, then siphon into secondary. Hold in secondary at 60° F (16° C) or cooler until fermentation is complete (Old Crustacean is aged for one year) then package.

Rogue Oregon Golden Ale (130 T)

"Oregon Golden Ale is the original Rogue brew dating back to 1988 and the days of the old Ashland brewpub location (which was destroyed by a flood several years ago). Deep golden in color with a rich malty aroma. Delicately smooth and crisp flavor and an herbal finish. Oregon Golden Ale is created from Northwest Harrington and Klages, and Maier Munich Malts (18% specialty grains, .19 lbs grain per bottle). Kent Golding and Cascade hops.

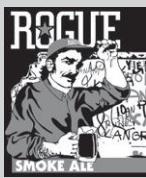
Rogue Specifications: 13° Plato, IBU 34, Apparent Attenuation 77, Lovibond 3.20."



Rogue Hazelnut Brown Nectar (130 T)

"Hazelnut Brown Nectar is a nutty twist to a traditional European Brown Ale. Dark brown in color with a hazelnut aroma, a rich nutty flavor and a smooth malty finish. Dedicated to the homebrewer in each of us—the homebrewer who inspired this cre-

ation is Chris Studach, a friend of Rogue's resident wizard John Maier, who added a Northwest twist to the classic style by adding hazelnuts for the host homebrew at the 1993 American Homebrewers Association convention. Chris put the nut in nut brown! Hazelnut Brown Nectar Ale is a blend of Great Western 2-row Pale, Munich, Hugh Baird Brown, Crystal 80 and Crystal 135, Carastan, and Beeston Pale Chocolate malts; hazelnut extract; Perle and Saaz hops. Rogue Specifications: 14



Rogue Smoke Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,
70% efficiency.

OG: 1.057 (14.5° P)

IBU: 48

All-Grain Wort Production

- 5.0 lb (2.27 kg) Bamberg smoked malt
- 2.0 lb (0.9 kg) Hugh Baird Munich malt
- 2.0 lb (0.9 kg) Great Western 2-row pale malt
- 1.0 lb (0.45 kg) Hugh Baird 75° L crystal malt
- 1.0 lb (0.45 kg) Hugh Baird 13-17° L carastan malt
- 0.5 lb (227 g) Alderwood home-smoked Munich malt

Mill 0.5 lb Munich malt, spray with water to wet it, then smoke over alder wood for several hours (or substitute another 0.5 lb German Rauch malt for Alderwood smoked malt). Mash at 150° F

(65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boiled wort.

Extract Plus Grains Wort Production

[None. As of this writing, there is no smoked malt extract, and using liquid smoke flavor won't do this beer justice!]

Wort Processing

- 0.5 lb (227 g) Alderwood home-smoked Munich malt
 - 0.5 oz (14 g) Perle pellet hops, 8% alpha acid (90 min)
 - 1.5 oz (43 g) Saaz pellet hops, 5% alpha acid (45 min)
 - 1.0 tsp (5 mL) Irish moss (20 min)
- BrewTek California Pub Ale (CL-50) or equivalent

Boil 90 minutes. Cool to 60° F (16° C) and pitch yeast. Ferment at 60° F (16° C) for one week, then siphon into secondary. Hold in secondary at 60° F (16° C) until fermentation is complete, then package and condition.



Rogue Oregon Golden Ale Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,
70% efficiency.

OG: 1.051 (13° P)

IBU: 34

All-Grain Wort Production

- 10.0 lb (4.5 kg) 2-row pale malt
- 0.5 lb (227 g) Munich malt

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boiled wort.

Extract Plus Grains Wort Production

Substitute 7.5 lb (3.4 kg) light malt extract syrup for pale and

Munich malts, then proceed with one-hour boil, adding hops at specified intervals.

Wort Processing

- 0.5 oz (14 g) Willamette pellet hops, 5% alpha acid (90 min)
 - 1.0 oz (28 g) Willamette pellet hops, 5% alpha acid (45 min)
 - 1.0 oz (28 g) Cascade pellet hops, 5% alpha acid (knockout)
 - 2.0 oz (57 g) Cascade pellet hops, 5% alpha acid (dry)
 - 1.0 tsp (5 mL) Irish moss (20 min)
- BrewTek California Pub Ale (CL-50) or equivalent

Boil 90 minutes. Cool to 65° F (18° C) and pitch yeast. Ferment at 60-62° F (16-17° C) for one week, then siphon into secondary with dry hops. Allow to remain on dry hops at 50-55° F (10-13° C) until fermentation is complete, then package, condition and enjoy!

degrees Plato, IBU 33, apparent attenuation 73.6, Lovibond 36."



Rogue Mocha Porter (130 T)

"Dedicated to the chocolate lover in each of us. Mocha Porter was once known

as New Porter, in honor of the town of Newport, Ore. and home of Rogue Ales. The January/February 1995 issue of *Men's Health* magazine features a bottle of Rogue New Porter (today's Mocha Porter) in the Fifth Annual Collection of Good Advice, Health News, Dire Warnings, Notable Folks and Unsolicited Opinion. New Porter

is described as the Best New Beer for 1994! The caption reads: 'Oh, Hoppy Day: For a beer-drinking experience order up a bottle of this microbrew from Oregon.' Ruddy brown in color, a bittersweet balance of malt and hops with a light cream finish."



Rogue Hazelnut Brown Nectar Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,
70% efficiency.

OG: 1.056 (14° P)

IBU: 33

All-Grain Wort Production

8.5 lb (3.86 kg) Great Western 2-row pale malt
0.75 lb (340 g) Hugh Baird Munich malt
4.0 oz (113 g) Hugh Baird brown malt
8.0 oz (227 g) 15° L crystal malt
1.0 lb (0.45 kg) 75L crystal malt
8.0 oz (227 g) 120L crystal malt
2.0 oz (57 g) Beeston pale chocolate malt
0.75 oz (21 g) hazelnut syrup, in secondary

Extract Plus Grains Wort Production

Steep specialty malts in 150° F (65° C) water for 20 minutes (omit Munich). Strain, add 6.5 lb (3 kg) light malt extract syrup and proceed with one-hour boil, adding hops at specified intervals.

Wort Processing

0.5 oz (14 g) Perle pellet hops, 8% alpha acid (90 min)
0.25 oz (7 g) Perle pellet hops, 8% alpha acid (45 min)
0.25 oz (7 g) Perle pellet hops, 8% alpha acid (30 min)
1.0 oz (28 g) Saaz pellet hops, 3% alpha acid (knockout)
1.0 tsp (5 mL) Irish moss (20 min)
BrewTek California Pub Ale (CL-50) yeast or equivalent

Boil 90 minutes. Cool to 60° F (16° C) and pitch yeast. Ferment at 60° F (16° C) for one week. Siphon into secondary at 50-55° F (10-13° C) with hazelnut syrup until fermentation is complete, then package and condition.

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boiled wort.



Rogue Mocha Porter Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,
70% efficiency.

OG: 1.051 (13° P)

IBU: 54.5

All-Grain Wort Production

8.5 lb (3.9 kg) 2-row pale malt
1.5 lb (0.68 kg) 120° L crystal malt
0.25 lb (113 g) Hugh Baird Munich malt
0.25 lb (113 g) pale chocolate malt
2.0 oz (57 g) chocolate malt
2.0 oz (57 g) black malt

Extract Plus Grains Wort Production

Steep specialty malts in 150° F (65° C) water for 20 minutes (omit Munich). Strain, add 6 lb (2.72 kg) light malt extract syrup, then proceed with one-hour boil, adding hops at specified intervals.

Wort Processing

1.0 oz (28 g) Amarillo pellet hops, 8% alpha acid (90 min)
1.0 oz (28 g) Horizon pellet hops, 5% alpha acid (knockout)
1.0 tsp (5 mL) Irish moss (20 min)
BrewTek California Pub Ale (CL-50) or equivalent

Boil 90 minutes. Cool to 65° F (18° C) and pitch yeast. Ferment at 60-62° F (16-17° C) for one week, then siphon into secondary. Package when fermentation is complete.

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boiled wort.

Rogue Chocolate Stout (130 T)

The recipe for Rogue Chocolate Stout was created several years ago for export to Japan. The exported 12-ounce Chocolate Bear Beer bottle label is in Kanji and fea-

tures a teddy bear with a pink heart on his belly. Chocolate Stout was released for Valentine's Day in 2001 in a 22-ounce bottle for the U.S. market. The label features a Roguester (Sebbie Buhler) on the label.

Ebony in color with a rich creamy head. The mellow flavor of oats, chocolate malts and real chocolate are balanced perfectly with the right amount of hops for a bitter-sweet finish." 



Rogue Chocolate Stout Clone

Recipe for 5 gallons (19 L)

Assumptions: 5.5 gallons at end of boil,
70% efficiency.

OG: 1.060 (15° P)

IBU: 69

All-Grain Wort Production

11.0 lb (5 kg) Great Western 2-row pale malt

0.5 lb (227 g) 120° L crystal malt

0.5 lb (227 g) chocolate malt

0.5 lb (227 g) rolled oats

3.0 oz (85 g) roast barley

1.5 oz (35 g) chocolate extract (in secondary)

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° F (79° C) to collect 6.5 gallons (24.6 L) of pre-boiled wort.

Extract Plus Grains Wort Production

Steep specialty malts in 150° F (65° C) water for 20 minutes. Strain, add 7.5 lb (3.4 kg) light malt extract syrup and proceed with one-hour boil, adding hops at specified intervals.

Wort Processing

1.0 oz (28 g) Cascade pellet hops, 5% alpha acid (90 min)

1.0 oz (28 g) Cascade pellet hops, 5% alpha acid (60 min)

1.0 oz (28 g) Cascade pellet hops, 5% alpha acid (30 min)

1.0 oz (28 g) Cascade pellet hops, 5% alpha acid (knockout)

1.0 tsp (5 mL) Irish moss (20 min)

BrewTek California Pub Ale (CL-50) or equivalent

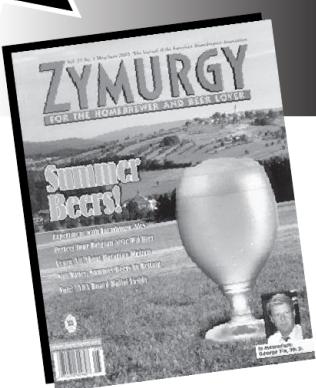
Boil 90 minutes. Cool to 60° F (16° C) and pitch yeast. Ferment at 60° F (16° C) for one week. Siphon into secondary at 50-55° F (10-13° C) on to chocolate extract and hold until fermentation is complete, then package and condition.

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2003 AHA National Homebrew Competition Winners

Homebrewer of the Year



Bruce Stott • Rockville, CT • Hop River Brewers

Bruce Stott, taking top honors this year for his "Cee Cee Schwarz Beer," said the name comes from the Roman numerals for 200, as this one was his 200th batch. No stranger to the AHA's National Homebrew Competition, Stott has been brewing for 10 years, winning several bronze medals and a gold in past years. But this is the first time he's won in this category. Known for his Munich Dunkels, Stott decided to widen his range this year and tweak a Dunkel recipe to fit the Schwarzbier lager style. He added dark grains, including Carafla malt, and with his typical German lineup of base malts went on to win Best of Show at this year's huge competition. When asked if he considered using a traditional decoction mash to brew his Schwarzbier, Stott said that he has used a single decoction schedule with highly modified malt. "But the difference isn't worth the effort, especially when you are using melanoidin malt," he concluded.

Stott doesn't have a fancy brewing set-up. In fact, he brews in his kitchen. "It's too low in there for a three-tier," he said, but by propping his mash tun up on the microwave, boiling on the stove and moving the wort with a \$20 submersible pump, he still manages to brew some of the best homebrew in the nation. His club, the Hop River Brewers of Rockville, Conn., was thrilled to have two grand awards going to club members. Speaking of fellow member Paul Zocco, Meadmaker of the Year, Stott said, "I think he was even more excited than I was."

Meadmaker of the Year



Paul Zocco • Andover, CT • Hop River Brewers

Calling Paul Zocco a "brewing enthusiast" simply does not do him justice. Chat with him for a few minutes at his homebrew shop in Andover, Conn., and you'll soon realize just how seriously he takes his brewing. When he's not running the shop, he's home cooking up a new batch of something, and he's sure he has the perfect mead recipe—NHC judges agree. Though he's been brewing mead for only five years, he's hit upon a very simple, straightforward method, and he's happy to give it out to anyone who comes by his shop.

With 15 pounds (6.8 kg) of good quality honey (his favorite variety is orange blossom) added to 5 gallons of water, Zocco heats the must to 160° F (71° C) for 15 to 30 minutes, then chills the must in a cold water bath to fermentation temperature. He adds a half-teaspoon each per gallon of acid blend and standard yeast nutrient. Then he "shakes the heck out of it" to aerate, and pitches Wyeast Sweet Mead yeast, which he's bumped up to a 2-liter starter with dry malt extract. After fermentation, he uses Sparkalloid to clarify the mead, and puts it away for three to four months to age. Simple! He plans to use the 40 pounds of sage honey he won from category sponsor Redstone Meadery to make a few more batches using the same method.

Meadmaker of the Year
award sponsored by



Cidermaker of the Year



Byron Burrier, Steve Olson and Steve Mattheeuussen Menasha, WI Appleton Libation Enthusiasts

Steve Olson is the experienced homebrewer of the group, with more than 15 years of brewing under his belt. Byron Burrier has been brewing beers and meads with Olson for more than four years and Steve Mattheeuussen has been brewing ciders and meads with them for three years.

"Olson was always talking about the great beers he was brewing, and since Byron came from Oregon and was familiar with great micro-brews, he naturally was very interested in learning how to do it."

Mattheeuussen is allergic to something in beer, so he got the group started brewing ciders, cysers, meads and other melomels. Together, the trio brews eight to 10 batches of ciders, meads and melomels each year—especially in the fall when the apples and berries are fresh. For their NHC winner, the must came from Heritage Orchard in Chilton, Wis., with a blend of Macintosh, Cortland, Red Deli-

Homebrewer of the Year award
sponsored by



cious, Empire and Honey Crisp apples. The must was freshly squeezed from late harvest apples to give the most concentrated flavor and sugar content. They made their cider within 24 hours of the apples being pressed, and instead of their usual mead yeast, pitched a fruity London ale yeast (Wyeast No. 1318). "Our winning entry was a bit of an experiment—the only way to learn new things, right?"

As for using sulfites to preserve their delicious concoctions, this year's top cidersmakers were conscious of Mattheeussen's allergies, thinking sulfites might affect their brewing colleague. "We tend to stay away from the sulfites and only use as little as possible." They do, however, add small amounts of ascorbic acid with a minimal amount of sulfite to the cider to stop fermentation for still ciders. They say they will continue to experiment and branch out with different styles and techniques—like using different yeast strains and aging cider in oak barrels for a new level of flavor and complexity.

Ninkasi Award sponsored by



Scotmalt and Hugh Baird, but relies on Great Western domestic 2-row as his mainstay.

Having built up his brew system over the years, Hausam now brews 30 gallons at a time, using one huge mash tun for wort separation. With three 15.5-gallon kettles for the boil, he will then split the beer up into 5-gallon portions for fermentation, often pitching starters of different yeast varieties in each.

Hausam has been brewing since 1992, and has been a member of three Oregon brew clubs: Capitol Brewers, the Oregon Brew Crew and now Strange Brew. And unsurprisingly, each of those clubs has been in contention for the Club of the Year award. When asked why he thinks membership in a club is important, Hausam said his thirst for brewing knowledge and the camaraderie were the main reasons—"I go for the beer."

Homebrew Club of the Year
award sponsored by



For the third straight year, QUAFF brought home the AHA's Homebrew Club of the Year Award. When asked about the secret behind the three-peat, QUAFF's AHA liaison Randy Barnes and club president Greg Lorton both mentioned the nearly annual BJCP classes and exams the club has been offering since 1996. The result has been an increased interest in entering and judging competitions as well as a better understanding of beer styles and the flaws commonly found in homebrew. To this club treasurer Harold Gulbransen adds the sense of teamwork that QUAFF has instilled in its members. "If you asked members of QUAFF what is the most prestigious award given by the AHA," says Gulbransen, "I have no doubt it would be the Club of the Year award. Individual medals are great, but the team results are the true sign that we are making good beer."

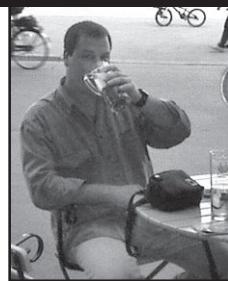
Upon returning from the 1999 National Homebrewers Conference in Olathe, Kan., then-club president Peter Zien wrote a rallying cry in the club newsletter, getting the club psyched to enter the National Homebrew Competition in 2000. That year, the club won its first NHC medals, placing third in the overall club standings. Hearing of the glory of winning a gold medal at nationals from Gulbransen was all that it took to get the club motivated to go for it all in 2001. The next year, the club entered 225 homebrews and had 20 different club members advance to the second round.

QUAFF realizes that next year's competition is going to be stiff. They are fully expecting a tough fight from the familiar club names like the Urban Knaves of Grain of Illinois and the Kansas City Bier Meisters as well as up-and-comers SAAZ of Ohio and the Great Northern Brewers of Alaska. With the conference moving to nearby Las Vegas next year, QUAFF is planning to have a large contingent at the 2004 NHC awards ceremony (they had around 20 members in attendance this year in Chicago)—giving them that much more incentive to put in as many quality entries as they can muster.

Ninkasi Award Winner

Curt Hausam • Salem, OR • Strange Brew

Curt Hausam, with two gold medals in this year's NHC, again claims the coveted Ninkasi Award, which goes to the homebrewer who scores the most medal points in the 24 beer categories. He entered 20 beers this year, with five going on to the second round. His goal is to claim a medal in every category, and he's got a good start with more than 10 categories already covered. He loves using



Homebrew Club of the Year

Quality Ale & Fermentation Fraternity (QUAFF) San Diego, CA



Of the 3,340 beer, mead and cider entries at the 25th anniversary of the National Homebrew Competition, these are the very best in each of 29 categories. As you can imagine, organizing the largest homebrew competition is no small feat. We caught up with NHC director Gary Glass and asked him a few questions about this year's event.

Zymurgy: How do you rate the judging and quality of entries in this year's NHC compared to previous years?

Gary Glass: I think in general we had a better set of judges this year than in past years, probably with the exception of the East Region, which was running its site for the first time. The second round was awesome! We had only BJCP judges, with six judges per category for almost every category. We were even turning judges away—that definitely hasn't happened in the previous three competitions. We had Michael Jackson on the Best of Show panel for beer—that was pretty cool.

Zymurgy: Of the site directors working on this year's competition, is there anyone who stood out or deserves special thanks?

GG: Maybe Steve McKenna, the second round site director who did an awesome job of recruiting judges along with head stewards extraordinaire, Ellen Janevicius and Luann Fitzpatrick, who basically set up the whole judging.

Zymurgy: How about generosity among award sponsors? Seemed like there were some great prizes this year.

GG: The conical fermenter that Beer, Beer and More Beer has given us for the last three years is of course very cool! Redstone's

Meadmaker prize was awesome, including a bottle of Reserve (goes for \$50) and Pinot Noir, 40 pounds of Button Sage Honey (I want that!) and a vest. The Homebrewer of the Year gets the Rogue 3-liter (this thing is massive!) bottle of Iron Chef Morimoto's Soba Signature Beer, signed by brewer John Maier, along with an invite to meet the Iron Chef in New York.

Zymurgy: You've been doing this for a while now. How do you see the NHC changing or evolving over the last few years?

GG: I'm better at it than I was. We've got a great set of local directors that I have complete confidence in. The competition has grown ever since my first year running it, so I guess we're doing something right. The growth of the competition led me to add another region, "East Region" based in Cleveland, this year. I think the competition for Homebrew Club of the Year has definitely heated up over the last few years.

Zymurgy: What role did homebrew clubs play in this year's competition? Any big rivalries?

GG: QUAFF is just a powerhouse of brewing. They are a mid-sized club, but their members are extremely motivated. They also brew a lot! This year, QUAFF member Jamil Zainasheff had 50 entries! Urban Knaves of Grain, who won the trophy along with Oregon Brew Crew back in '99, put up a noble effort to take the trophy back in their hometown. UKG member and former Ninkasi Award winner Joe Formanek came up with three medals. Great Northern Brewers of Anchorage, who took third in club points, put on a very impressive showing. They took more medals in the second round than any other club. I'd look for them to be serious

contenders in next year's competition. I know they are itching to knock off QUAFF (their latest newsletter suggested that there was a secret QUAFF connection to Al Qaida).

With another successful NHC under his belt, Glass can start looking forward to next year's event. But meanwhile, we invite you to see how this year's gold medallists pulled off the amazing feat of brewing the best example in their category. We hope to see your name in the ranks next year!

Amahl Turczyn Scheppach is former associate editor of Zymurgy.



Category 1: American Lager



Gold Medal

AHA 2003 National Homebrew Competition

Richard Nelson, Dover, MA

"American Light", American Lager, Light

Ingredients for 5.8 U.S. gal (22 L)

- 5.25 lb (2.38 kg) Canada Malting 6-row pale malt**
- 2.25 lb (1.02 kg) Goya medium grain rice**
- 0.5 oz (14 g) Liberty plug hops, 4.9% alpha acid (first wort)**
- 0.75 oz (21 g) Cluster plug hops, 6.5% alpha acid (60 min)**
- Wyeast No. 2124 Bohemian lager yeast**
- 4.9 oz (141 g) corn sugar to prime**
- 10.0 g Polyclar to clarify**

- Original specific gravity: 1.0425
- Final specific gravity: 1.0071
- Boiling time: 90 minutes
- Primary fermentation: 12 days at 50° F (10° C) in glass
- Secondary fermentation: 97 days at 50-55° F (10-20° C) in glass

Brewer's Specifics

Cereal mash rice with approximately 5 oz (142 g) of 6-row per pound of rice. Mash in with 2 quarts (1.89 L) water per pound at 153° F (67° C) for 15 minutes. Heat to boil. Boil for 30 minutes. Mash in 6-row with 36 oz (1.06 L) water per pound at 144° F (62° C) for 30 minutes. Add cereal mash and heat and raise mash to 158° F (70° C) for 45 minutes. Heat mash to 161-162° F (72° C) for 30 minutes. Mash out at 168° F (76°C) for 10 minutes.

Judges' Comments

"Very well made example of an American light. Great balance on all the components. I wish the big boys could brew them this good!"

"Wow! Lite! Clean! 0 haze! Great head. If all lite beers were this good I could lose some weight. This just kicks ass. Don't change a thing."

Runners-Up

Silver Medal: Mike McCluskey, North Bend, WA, Brew Rats

Bronze Medal: David Oenbring, Lincoln, NE, Lincoln Lagers

Category 2: European Pale Lager



Gold Medal

AHA 2003 National Homebrew Competition

Bob Carbone, Grand Cane, LA, Shreveport Urban Diastatic Spargers (SUDS)

"YA WHOL Pils" North German Pils

Ingredients for 23 U.S. gal (87 L)

- | | | |
|------|---------------|-----------------------|
| 24.0 | lb (10.88 kg) | Weyermann Pils malt |
| 6.0 | lb (2.72 kg) | Weyermann Vienna malt |

- | | | |
|------|--------------|--|
| 5.0 | lb (2.27 kg) | Briess dextrin malt |
| 1.0 | oz (28 g) | Spalt whole hops,
7.2% alpha acid (first wort) |
| 1.0 | oz (28 g) | Hallertauer Tradition whole hops, 6.4% alpha acid (first wort) |
| 2.0 | oz (57 g) | Spalt whole hops,
7.2% alpha acid (60 min) |
| 1.0 | oz (28 g) | Hallertauer Tradition whole hops, 6.4% alpha acid (30 min) |
| 2.0 | oz (57 g) | Hallertauer Tradition whole hops, 6.4% alpha acid (15 min) |
| 3.0 | oz (85 g) | Hallertauer Tradition whole hops, 6.4% alpha acid (2 min) |
| 4000 | mL | Carbone lager yeast forced CO ₂ to carbonate |
| 4.0 | tsp. | Irish moss in boil |
| 0.25 | tsp | Clearfine in keg |

- Original specific gravity: 1.050
- Final specific gravity: 1.014
- Boiling time: 60 minutes
- Primary fermentation: 7 days at 52° F (11° C) in steel
- Secondary fermentation: 7 days at 42° F (6° C) in steel

Brewer's Specifics

Mash grains at 153° F (67° C) for 65 minutes. Raise to 158° F (70° C) and hold 25 minutes. Mash out at 168° F (76° C) for 20 minutes.

Judges' Comments

"Excellent beer—super clean. Better than Bitburger calibration! Such a pleasure to drink. Only flaw—hop aroma just not there."

"Very good recipe. Correct for lighter color and boost carbonation, other than that an excellent representation of style."

"Crisp, dry, bitter. You are the man. Very delicious. Send me your recipe, please!"

Runners-Up

Silver Medal: Kirk Allen, Anchorage, AK, Great Northern Brewers

Bronze Medal: Greg Brown, Auburn Hills, MI

Category 3: Light Ale



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Northwestern Extract

James Grady and Steve Wesstrom, Grand Prairie, TX, Knights of the Brown Bottle
"Snow Wheat Ale", American Wheat

Ingredients for 10 U.S. gal (38 L)

- | | | |
|------|--------------|--|
| 15.5 | lb (7.03 kg) | 2-row pale malt |
| 5.0 | lb (2.27 kg) | wheat malt |
| 1.5 | oz (42 g) | Perle whole hops,
8% alpha acid (60 min.) |
| 1.5 | oz | Perle whole hops, 8% alpha acid (42 g) (30 min.) |
| 1.0 | oz (28 g) | Cascade whole hops,
5% alpha acid (2 min.) |
| | | Wyeast No. 1056 American ale yeast |
| 0.75 | cup (177 mL) | corn sugar (to prime) |
| 1.0 | tsp. | Irish moss to clarify |
| | | Original specific gravity: 1.048 |
| | | Final specific gravity: 1.007 |
| | | Boiling time: 60 minutes |
| | | Primary fermentation: 12 days at 66° F (19° C) in glass |
| | | Secondary fermentation: 9 days at 66° F (19° C) in glass |

Brewer's Specifics

Mash grains at 153° F (67° C) for 60 minutes.

Judges' Comments

"A very well-made, refreshing beer. Malt and hop qualities are well balanced."

"A soundly brewed beer with no off flavors or aromas—wheat malt flavor stands out in aroma and flavor. Very low hop presence in flavor, stands out a bit more in aroma."

Runners-Up

Silver Medal: Jeff Oberlin, Friendswood, TX, Bay Area Mashtronauts

Bronze Medal: Joe Formanek, Bolingbrook, IL, Urban Knaves of Grain

Category 4: Bitter & English Pale Ale



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by St. Louis Wine & Beer Making

David Quinn, Folly Beach, SC, Lowcountry Libations

"Shovel-N-Pail Ale"

Ingredients for 5 U.S. gal (19 L)

10.0 lb (4.54 kg) Briess 2-row pale malt
1.0 lb (0.45 kg) 20° caramel malt
0.35 oz (10 g) Chinook pellet hops, 12% alpha acid (60 min)
0.70 oz (60 min) Fuggle pellet hops, 6% alpha acid (20 g)
0.70 oz (20 g) Cascade pellet hops, 5.5% alpha acid (15 min)
0.70 oz (20 g) Fuggle pellet hops, 6% alpha acid (15 min)
2.11 oz (60 g) Cascade pellet hops, 5.5% alpha acid (5 min)
Wyeast No. 1056 American ale yeast
1.0 cup (236 mL) boiled 1.060 gravity wort to prime

- Original specific gravity: Unknown
- Final specific gravity: Unknown
- Boiling time: 60 minutes
- Primary fermentation: 8 days at 68° F (20° C) in glass
- Secondary fermentation: 14 days at 60° F (16° C) in glass

Brewer's Specifics

Mash grains at 148° F (64° C) for 60 minutes.

Judges' Comments

"Nice hop flavor, good balance. Good example, OK style, somewhat on the high end."

"Malty aroma with hops present. Very close."

"Great beer; I could drink a lot of this. I love the biscuity flavor."

Runners-Up

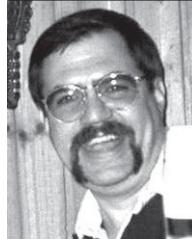
Silver Medal: Matt Boisen, Longmont, CO
Bronze Medal: Chuck West, San Diego, CA, Quality Ale & Fermentation Fraternity (QUAFF)

Judges' Comments

"Well-made example...malty with some old fruit notes."

"Aside from aroma being less than I'd like, this beer has good flavor. Very good example of the style."

Category 5: Scottish Ales



Gold Medal

AHA 2003 National Homebrew Competition

Shawn Scott, McAlester, OK, Fellowship of Oklahoma Ale Makers (FOAM)

"St. Andrew's 70 Shillings", Heavy -/70

Ingredients for 9 U.S. gal (34.06 L)

10.0 lb (4.54 kg) Maris Otter pale malt
4.0 lb (1.81 kg) Paul's mild ale malt
1.0 lb (0.45 kg) aromatic malt
1.0 lb (0.45 kg) Paul's dark crystal malt
1.0 lb (0.45 kg) Briess wheat malt
0.25 lb (113 g) Hugh Baird brown malt
2.0 oz (57 g) Hugh Baird roast barley
1.0 oz (28 g) peated malt
1.41 oz (40 g) E. Kent Golding whole hops, 6.6% alpha acid (110 min.)
White Labs WLP 011 European ale yeast
forced CO₂ to carbonate

- Original specific gravity: 1.058
- Final specific gravity: 1.015
- Boiling time: 120 minutes
- Primary fermentation: 15 days at 59° F (15° C) in glass
- Secondary fermentation: 15 days at 59° F (15° C) in glass

Brewer's Specifics

Mash grains at 157° F (69° C) for 60 minutes.

Runners-Up

Silver Medal: Jamil Zainasheff, Elk Grove, CA, Quality Ale & Fermentation Fraternity
Bronze Medal: John Gray, Regina, SK, Ale and Lager Enthusiasts of Saskatchewan

Category 6: American Pale Ales



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by BJ's Pizza Grill and Brewery

Rob Beck, Kansas City, MO, Kansas City Bier Meisters

"River Forest Pale"

Ingredients for 5 U.S. gal (19 L)

9.0 lb (4.08 kg) Schrier Harrington malt
1.0 lb (0.45 kg) Dingeman Munich malt
0.75 lb (340 g) Briess Victory malt
0.5 lb (0.23 kg) Weyermann Cara-foam malt
0.5 lb (0.23 kg) wheat malt
0.5 lb (0.23 kg) flaked barley
0.75 oz (21 g) Simcoe whole hops, 13% alpha acid (48 min)
0.5 oz (14 g) Centennial whole hops, 10.1% alpha acid (10 min)
0.5 oz (14 g) Cascade whole hops, 7% alpha acid (10 min)
0.5 oz (14 g) Centennial whole hops, 10.1% alpha acid (steep)
0.5 oz (14 g) Cascade whole hops, 7% alpha acid (steep)
1.0 oz (28 g) Centennial whole hops, 10.1% alpha acid (dry)
1.0 oz (28 g) Simcoe whole hops, 13% alpha acid (dry)
Wyeast No. 1056 American ale yeast

Forced CO₂ to carbonate
Isinglass and Polyclar to clarify

- Original specific gravity: 1.059
- Final specific gravity: 1.014
- Boiling time: 65 minutes
- Primary fermentation: 12 days at 68° F (20° C) in glass
- Secondary fermentation: 6 days at 68° F (20° C) in glass
- Tertiary fermentation: 14 days at 30° F (-1° C) in glass

Brewer's Specifics

Mash in for 14 minutes at 130° F (54° C). Raise to 150° (66° C) and hold for 1 minute. Raise to 156° F (69° C) and hold 111 minutes. Mash out at 167° F (75° C) for 42 minutes.

Judges' Comments

"Very nice APA—good fresh hop that's high but not overwhelmingly so. A little longer finish would be nice."

"Very nice beer. Bright, clean, good balance and hoppage. I'm not sure why the finish is so short, but it makes you want to go back for another swallow."

Runners-Up

Silver Medal: Steve Bagley, Medina, OH,

Society of Akron Area Zymurgists (SAAZ)

Bronze Medal: Bill Wright, Juneau, AK

Category 7: India Pale Ale



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Anderson Valley Brewing Company

Ken Celski, Temperance, MI, Downriver

Brewers Guild

"Challenger"

Ingredients for 10 U.S. gal (38 L)

- 20.0 lb (9.08 kg) pale 2-row malt
- 2.0 lb (0.90 kg) Vienna malt
- 1.5 lb (0.68 kg) 40° crystal malt
- 0.5 lb (0.23 kg) wheat malt
- 1.0 oz (28 g) Challenger pellet hops, 8.2% alpha acid (first wort)

- 1.5 oz (42 g) Challenger pellet hops, 8.2% alpha acid (60 min.)
 - 2.0 oz (56 g) Challenger pellet hops, 8.2% alpha acid (20 min.)
 - 2.0 oz (56 g) Centennial pellet hops, 9.1% alpha acid (5 min.)
 - 2.0 oz (56 g) Centennial pellet hops, 9.1% alpha acid (dry)
Wyeast No. 1056 American ale yeast
- Forced CO₂ to carbonate

- Original specific gravity: 1.062
- Final specific gravity: 1.012
- Boiling time: 60 minutes
- Primary fermentation: 14 days at 68° F (20° C) in plastic
- Secondary fermentation: 14 days at 68° F (20° C) in glass

Brewer's Specifics

Mash grains at 152° F (67° C) for 90 minutes.

Judges' Comments

"Nice hop aroma and flavor. The slight harshness at the end is likely from water ions—if high carbonate, try to reduce them. A little more sulfate as well."

"Well made beer. Starts with malt sweetness, changing to hop bitterness, [with] balance toward hops."

"Good hop presence, but floral taste. Finish a little sweet. Lots of aroma hops—I want bitter."

Runners-Up

Silver Medal: Joe Formanek, Bolingbrook, IL, Urban Knaves of Grain

Bronze Medal: Michael Gruber, West Linn, OR, Strange Brew

Category 8: Kolsch & Altbier



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Meussdoerffer C/O Cargill Malt-Specialty Products Group

Mark Norbury, Salem, OR, Strange Brew

"Allegory Alt", Northern German Alt

Ingredients for 10 U.S. gal (38 L)

- 13.0 lb (5.9 kg) Briess 6-row malt
 - 5.0 lb (2.27 kg) 18° L Budvar Munich malt
 - 0.5 lb (227 g) 25° L Briess Victory malt
 - 0.5 lb (227 g) 130° L Briess Extra Special malt
 - 0.25 lb (113 g) 280° L Weyermann chocolate rye malt
 - 0.5 oz (14 g) Cascade whole hops, 5% alpha acid (90 min.)
 - 1.0 oz (28 g) Nugget whole hops, 11.5% alpha acid (60 min.)
 - 1.5 oz (42 g) Spalt whole hops, 5.5% alpha acid (30 min.)
 - 2.0 oz (56 g) Mt. Hood whole hops, 4.5% alpha acid (steep)
Wyeast No. 1007 German ale yeast
- forced CO₂ to carbonate

- Original specific gravity: 1.055
- Final specific gravity: 1.018
- Boiling time: 90 minutes
- Primary fermentation: 7 days at 60° F (16° C) in glass
- Secondary fermentation: 30 days at 55° F (13° C) in glass
- Tertiary fermentation: 4 months at 30° F (0° C) in steel

Brewer's Specifics

Mash grains at 147° F (64° C) for 90 minutes. Raise to 147° F (64° C) and hold for 90 minutes. Mash out at 158° F (70° C) for 15 minutes.

Judges' Comments

"Nice clean beer. Well done. The hopping is particularly nice—bitterness without too much hop flavor."

"Prominent malt flavor. Clean beer, great example for style."

"A bit too bitter for an 8-c—fits 8-b closer. But close—not a major flaw. This is a good beer and a fine effort."

Runners-Up

Silver Medal: Peter Zien, San Diego, CA, Quality Ale & Fermentation Fraternity

Bronze Medal: Michael Rupp, Nixa, MO

Category 9: German Amber Lager



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Homebrew Headquarter

Stephen MacMillan, Henderson, NV, Harvest Moon Brewers

"The Monks Have Spoken", Oktoberfest/Marzen

Ingredients for 5 U.S. gal (19 L)

- 6.0 lb (2.72 kg) Williams Gold light malt extract
- 1.5 lb (0.68 kg) Great Western Munich malt
- 1.5 lb (0.68 kg) Great Western Vienna malt
- 1.0 lb (0.45 kg) Great Western 2-row malt*
- 0.25 oz (7 g) Mittelfruh pellet hops, 4.3% alpha acid (60 min.)
- 0.20 oz (5.6 g) Hersbrucker pellet hops, 2.5% alpha acid (60 min.)
- 0.20 oz (5.6 g) Hersbrucker pellet hops, 4.0% alpha acid (60 min.)
- 0.25 oz (7 g) Mittelfruh pellet hops, 4.3% alpha acid (30 min.)
- 0.5 oz (14 g) Mittelfruh pellet hops, 4.3% alpha acid (10 min.)
- White Labs WLP 820 Oktoberfest/Marzen lager yeast
- Corn sugar to prime

- Original specific gravity: 1.056
- Final specific gravity: 1.015
- Boiling time: 60 minutes
- Primary fermentation: 11 days at 44° F (17° C) in glass
- Secondary fermentation: 60 days at 32-40° F (0-4° C) in glass
- Diacetyl rest

Brewer's Specifics

*Toast 1 lb 2-row malt at 350° F (176.6° C) for 10 minutes. Mash grains for 1.5 hours at 158° F (70° C).

Judges' Comments

"Generally within style. More malt aroma in flavor would add complexity, and a bit less CO₂ to remove carbonic bite."

"Sweet, malty—sweet finish overwhelms. Need more hops in finish."

"Remember, this is meant to be consumed by the liter for a whole week—it can't be too sweet or it will start to be cloying."

Runners-Up

Silver Medal: Craig Corley, Santa Monica, CA, Pacific Gravity

Bronze Medal: Jack and Abby Hines, Erie, PA

Alley Kat Brewery London ale

yeast

1.0 (177 mL) cup corn sugar to prime

Isinglass to clarify

- Original specific gravity: 1.040
- Final specific gravity: 1.011
- Boiling time: 60 minutes
- Primary fermentation: 4 days at 65° F (18° C) in glass
- Secondary fermentation: 14 days at 65° F (18°C) in glass

Brewer's Specifics

Mash grain at 152-154° F (67-68° C) for one hour.

Judges' Comments

"Stunning, getting that much complexity into a beer that thin and clean. Wow!"

"True to style, good session mild. Light body but not light on flavor."

Runners-Up

Silver Medal: Joe Formanek, Bolingbrook, IL, Urban Knaves of Grain

Bronze Medal: Steve and Dave Scott, Campbell, CA

Category 10: Brown Ale



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Alternative Beverage

Roxanne Hastings, Edmonton, AB, Edmonton Homebrewers Guild

"King Ghob's Mild", Mild

Ingredients for 5.5 U.S. gal (20.8 L)

- 7.3 lb (3.31 kg) Golden Promise pale malt
- 1.25 lb (0.57 kg) Hugh Baird 75° L crystal malt
- 6.0 oz (170 g) chocolate malt
- 4.0 oz (113 g) caramel aroma malt
- 1.1 oz (31 g) Bramling Cross pellet hops, 5% alpha acid (45 min.)

Category 11: English and Scottish Strong Ale



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Austin Homebrew Supply

Jon Peterson, Poway, CA, Quality Ale & Fermentation Fraternity (QUAFF)

Wee Heavy

Ingredients for 5 U.S. gal (19 L)

- 13.0 lb (5.9 kg) English pale malt
- 0.6 lb (272 g) Victory malt
- 0.6 lb (272 g) 120° L crystal malt
- 0.4 lb (181 g) Belgian aromatic malt
- 0.25 lb (113 g) roast barley
- 0.4 oz (11 g) Kent Goldings pellet hops, 6.6% alpha acid, (90 min.)

0.8 oz (22 g) Kent Goldings pellet hops, 6.6% alpha acid, (60 min)
 0.4 oz (11 g) Kent Goldings pellet hops, 6.6% alpha acid, (45 min)
 White Labs WLP 028 Edinburgh ale yeast
 forced CO₂ to carbonate

- Original specific gravity: 1.080
- Final specific gravity: 1.022
- Boiling time: 90 minutes
- Primary fermentation: 21 days at 60° F (16° C) in glass
- Secondary fermentation: 14 days at 60° F (16° C) in glass

Brewer's Specifics

Mash grains at 155° F (68° C) for two hours.

Judges' Comments

"A good beer with nice hop balance. First time today, but I can have another one."

"Excellent scotch ale. Could use a bit more complexity with a hint of roast, but a great beer nonetheless."

Runners-Up

Silver Medal: Julia Herz and Greg Ucker, Lyons, CO, Hop Barley & The Alers

Bronze Medal: Dave Justice, Knoxville, MD, Frederick's Original Ale Makers (FOAM)

Category 12: Barley Wine & Imperial Stout



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Anchor Brewing Company

Matthew Udall, Pasadena, CA, Maltose Falcons Homebrewing Society

"Olde Kortholt", English-Style Barley Wine

Ingredients for 5 U.S. gal (19 L)

12.0 lb (5.44 kg) 3°L 2-row English ESB malt
 5.0 lb (2.27 kg) Alexander's pale malt extract

1.0 lb (0.45 kg) Briess Victory malt
 1.0 lb (0.45 kg) 5-12° L Weyermann malt
 1.0 lb (0.45 kg) 2° L red wheat malt
 10.0 oz (283 g) 60° L caramel malt
 8.0 oz (227 g) 40° L Briess crystal malt
 1.0 oz (28 g) chocolate malt
 1.0 oz (28 g) Galena pellet hops, 12.5% alpha acid (90 min.)
 1.0 oz (28 g) Chinook pellet hops, 10.8% alpha acid (90 min.)
 1.0 oz (28 g) Nugget pellet hops, 12.8% alpha acid (90 min.)
 1.0 oz (28 g) Northern Brewer pellet hops, 6.6% alpha acid (60 min.)
 1.0 oz (28 g) Mt. Hood pellet hops, 3.9% alpha acid (15 min.)
 1.0 oz (28 g) Saaz pellet hops, 3.9% alpha acid (finish)
 1.0 oz (28 g) Saaz pellet hops, 3.9% alpha acid (dry)
 1.0 oz (28 g) Cascade pellet hops, 5.8% alpha acid (dry)
 Wyeast No. 1028 London ale yeast
 0.66 cup dextrose (156 mL) to prime
 0.5 cup (118 mL) fresh yeast starter to prime

- Original specific gravity: 1.112
- Final specific gravity: 1.034
- Boiling time: 90 minutes
- Primary fermentation: 22 days at 65° F (18° C) in plastic
- Secondary fermentation: 30 at 65° F (18° C) in glass

Brewer's Specifics

Mash in with a protein rest at 125° F (52° C) for 30 minutes. Pull about 5 pounds (2.27 kg) of mash out and boil on high heat for five to 10 minutes. Add back to main mash and equalize at 152 to 160° F (67-72° C); hold for 45 minutes. Raise to 178° F (81° C) for mash out. Use rice hulls to assist with sparge. Add extract and commence boil.

Judges' Comments

"Nice malt/fruit taste. Big body, slightly warm."

"Very good beer. Nicely balanced. Maybe slightly over-hopped. Good balance of malt and fruit. Slight sourness from age?"

"Well rounded barleywine, and substantial. Light a fire, pour one and sit back..."

Runners-Up

Silver Medal: Tom Hood and Art Beall, Stow, OH, Society of Akron Area Zymurgists (SAAZ)

Bronze Medal: Kenny Schrader, Edison, NJ, Woodbridge Homebrewers Ale & Lager Enthusiast Society (WHALES)

Category 13: European Dark Lager



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Briess Malting Company

2003 HOMEBREWER OF THE YEAR

**Bruce Stott, Rockville, CT,
Hop River Brewers**

"Cee Cee Schwarz", Schwarzbier

Ingredients for 5 U.S. gal (19 L)

5.75 lb (2.61 kg) Munich malt
 1.0 lb (0.45 kg) Pilsner malt
 1.25 lb (0.57 kg) melanoidin malt
 1.0 lb (0.45 kg) Carafa III malt
 0.25 lb (113 g) caramel Munich malt
 0.25 lb (113 g) dextrin malt
 1.4 oz (39 g) Hersbrucker pellet hops, 4.5% alpha acid (60 min.)
 0.1 oz (2.8 g) Hersbrucker pellet hops, 4.5% alpha acid (20 min.)
 White Labs WLP 802 Czech Budovice lager yeast
 0.66 cup (156 g) dextrose to prime

- Original specific gravity: 1.051
- Final specific gravity: 1.016
- Boiling time: 75 minutes
- Primary fermentation: 23 days at 48° F (9° C) in glass

- Secondary fermentation: 31 days at 48° F (9° C) in glass

Brewer's Specifics

Mash grains at 153° F (67° C) for 60 minutes.

Judges' Comments

"Nice Schwarz! I do like the malt expression—even if it is a little sweet at the end. Good complexity and a nice drink. Thanks!"

"Very clean, tasty Schwarz. Malty finish is just out of line for style... Maybe lower mash temp or add hops to dry out finish. Great drinker, though."

Runners-Up

Silver Medal: Kirk Allen, Anchorage, AK, Great Northern Brewers

Bronze Medal: Mike Szwaya, Portland, OR, Oregon Brew Crew

Category 14: Bock

Gold Medal



AHA 2003 National Homebrew Competition

Category award sponsored by Washington Hop Commission

Rodney Elliott, Winter Springs, FL, Central Florida Home Brewers

Doppelbock

Ingredients for 5.5 U.S. gal (20.8 L)

- 17.0 lb (7.7 kg) 10° L German Munich malt
- 2.0 lb (0.9 kg) 35° L melanoidin malt
- 1.0 lb (0.45 kg) aromatic malt
- 0.16 lb (72.5 g) aromatic malt
- 1.5 oz (42 g) Mittelfruh pellet hops, 4.5% alpha acid (60 min.)
- 0.75 oz (21 g) Mittelfruh hops, 3.4% alpha acid (20 min.)
- Wyeast No. 2206 Bavarian lager yeast
- Forced CO₂ to carbonate

- Original specific gravity: 1.095
- Final specific gravity: 1.033

- Boiling time: 60 minutes
- Primary fermentation: 15 days at 53° F (12° C) in glass
- Diacetyl Rest: 2 days at 65° (18° C) in glass
- Lagering: 3 months at 37° F (3° C)

(steep 15 min.)

Wyeast No. 1056 American ale yeast

1.0 cup (177 mL) dextrose to prime Irish moss, Polyclar to clarify

- Original specific gravity: 1.055
- Final specific gravity: 1.012
- Boiling time: 75 minutes
- Primary fermentation: 6 days at 72° F (22° C) in plastic
- Secondary fermentation: 6 days at 65° F (18° C) in plastic

Brewer's Specifics

Mash in at 122° F (50° C) and hold for 20 minutes. Raise to 156° F (69° C) and hold for 60 minutes. Mash out at 168° F (76° F) for 15 minutes.

Judges' Comments

"Very nice beer—great malt aroma, marred by oxidation in flavor. Must have been great a few months back."

"Excellent example; I could drink this all day. Reminds me of the classic Euro styles."

"Good beer, but one-dimensional. Needs more complexity and alcohol."

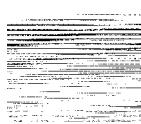
Runners-Up

Silver Medal: Antoinette Hodges and Cher Cunningham, Carlsbad, CA, Quality Ale & Fermentation Fraternity

Bronze Medal: Jeff Lannon, Dennis Johnson, Erich Schenk, Alpine, CA

Category 15: Porter

Gold Medal



AHA 2003 National Homebrew Competition

Category award sponsored by Deschutes Brewery, Inc.

Richard Kirn, Garden City, MI

"Porter", Robust Porter

Ingredients for 5.5 U.S. gal (20.8 L)

- 8.0 lb (3.63 kg) pale 2-row malt
- 0.75 lb (340 g) 50° L crystal malt
- 0.5 lb (0.23 kg) roast barley
- 0.5 lb (0.23 kg) chocolate malt
- 7.0 AAU Northern Brewer whole hops (60 min.)
- 4.0 AAU Fuggle whole hops (30 min.)
- 4.0 AAU Cascade whole hops (30 min.)
- 4.0 AAU Cascade whole hops

Brewer's Specifics

Mash grains at 150° F (66° C) for 90 minutes.

Judges' Comments

"Roasty notes. Dry finish, not astringent. Well done. Reminds me of a French roast espresso. Very pleasant."

"Very nice example of style, well balanced and quite drinkable."

"Dark roast maltiness with coffee notes. Good example of style."

Runners-Up

Silver Medal: Paul Shick, Cleveland Heights, OH, Society of Northeast Ohio Brewers (SNOBs)

Bronze Medal: Jason Ditsworth, Anchorage, AK, Great Northern Brewers

Category 16: Stout



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Brew & Grow

Dave Christianson, Madison, WI, Madison Homebrewers & Tasters Guild, Ltd.

Dry Stout

Ingredients for 5 U.S. gal (19 L)

- 6.0 lb (2.72 kg) Maris Otter malt
- 2.0 lb (0.9 kg) flaked barley
- 0.7 lb (317 g) roast barley
- 0.2 lb (90.7 g) black patent malt

2.0 oz (57 g) E. Kent Golding hops,
5.3% alpha acid (50 min.)
Wyeast No. 1084 Irish ale yeast
8.0 oz (227 g) corn sugar to prime

- Original specific gravity: 1.050
- Final specific gravity: 1.012
- Boiling time: 90 minutes
- Primary fermentation: 7 days at 64° F (18° C) in glass
- Secondary fermentation: 10 days at 64° F (18° C) in glass

Brewer's Specifics

Mash grains at 153° F (67° C) for 70 minutes.

Judges' Comments

"Very well made dry stout. Perception of alcohol is a bit of a distraction. If I had to find a flaw, I would say one dimensional. Well done."

"A very smooth example—just a bit of acidity, but it goes very well with the roast malt character."

Runners-Up

Silver Medal: Pete Devaris, Anchorage, AK, Great Northern Brewers

Bronze Medal: James Grady, Grand Prairie, TX, Knights of the Brown Bottle

Category 17: Wheat Beer



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Widmer brothers Brewing Company

Arlin Karger, Moorhead, MN,
Cloudy Town Brewers

"N.M. Weizenbock", German-Style Weizenbock

Ingredients for 5 U.S. gal (19 L)

6.5 lb (2.95 kg) wheat malt
5.5 lb (2.49 kg) Mn Malting two-row malt
2.0 lb (0.9 kg) DeWolf Cosyns Munich malt

0.25 lb (113 g) Beestons chocolate malt
1.0 oz (28 g) Tettnang pellet hops,
5.2% alpha acid (90 min.)
0.25 oz (7 g) Hallertau pellet hops,
5.6% alpha acid (90 min.)
Wyeast No. 3068 Weihenstephan ale yeast
Forced CO₂ to carbonate

- Original specific gravity: 1.078
- Final specific gravity: 1.022
- Boiling time: grains 90 minutes
- Primary fermentation: 12 days at 70° F (21° C) in glass
- Secondary fermentation: 26 days at 68° F (20° C) in glass

Brewer's Specifics

Mash grains at 150° F (66° C) for 60 minutes.

Judges' Comments

"Warming, strong beer. A little more CO₂ would help. Otherwise a well-made beer. Maybe a little too much alcoholic presence."

"Less roast malt will help reduce roastiness, while keeping color within range."

"Nice beer—no flaws. Need to increase CO₂ and body."

Runners-Up

Silver Medal: Jeff Lannon, Dennis Johnson, Erich Schenk, Alpine, CA

Bronze Medal: Steve Schmitt, Anchorage, AK, Great Northern Brewers

Category 18: Strong Belgian Ale



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Mouterij Dingemans c/o Cargill Malt-Specialty Products Group

Richard Dobson, Gainsville, TX,
Red River Brewers

"Dubbel Down", Dubbel

Ingredients for 5 U.S. gal (19 L)

12.0 lb (5.44 kg) pale ale malt

0.5 lb (0.23 kg) biscuit malt
0.15 lb (68 g) Carafa Special malt
0.75 lb (340 g) amber candi sugar
1.3 oz (37 g) Spalt Select whole hops,
4.5% alpha acid (60 min.)

White Labs WLP 500 Trappist ale yeast
0.75 cup (177 mL) corn sugar to carbonate

- Original specific gravity: 1.071
- Final specific gravity: 1.022
- Boiling time: 90 minutes
- Primary fermentation: 6 days at 62° F (17° C) in glass
- Secondary fermentation: 14 days at 45° F (7° C) in glass

Brewer's Specifics

Mash grains at 151° F (66° C) for 90 minutes. Add candi sugar 10 minutes before the end of the boil.

Judges' Comments

"Color a bit light—consider adding 1-2 oz of chocolate or chocolate wheat to get reddish highlights. Nice yeast character—good yeast choice and well-managed fermentation. Good use of base malts. Nice Special B flavor. A bit dry. Nice job."

"Good Dubbel. Well made. A little more rich malt flavor would have helped."

Runners-Up

Silver Medal: Jonathan Lafourte, Longueuil, PQ, Les Brasseurs Phonx

Bronze Medal: Pete Devaris, Anchorage, AK, Great Northern Brewers

Category 19: Belgian & French Ale



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by S.A. Bieres De Chimay c/o Manneken-Brussel Imports Inc.

John Applegarth, Grand Rapids, MI, Prime Time Brewers

Biere de Garde

Ingredients for 6 U.S. gal (22.7 L)

12.5 lb (5.67 kg) DeWolf Cosyns pale malt
1.0 lb (0.45 kg) flaked barley
1.0 lb (0.45 kg) Munich malt
1.0 lb (0.45 kg) Vienna malt
0.25 lb (113 g) biscuit malt
0.25 lb (113 g) honey malt
1.0 oz (28 g) Northern Brewer pellet hops, (60 min.)
0.25 oz (20 min.) Tettnang pellet hops, (7 g)
0.25 oz (7 g) Hallertau pellet hops, (20 min.)
White Labs WLP 550 Belgian ale yeast
1.25 cup (296 mL) dry malt extract to prime

- Original specific gravity: 1.079
- Final specific gravity: 1.021
- Boiling time: 60 minutes
- Primary fermentation: 7 days at 68-73° F (20-23° C) in glass
- Secondary fermentation: 18 days at 66-68° F (19-20° C) in glass

Brewer's Specifics

Mash grains at 160° F (71° C) for 70 minutes.

Judges' Comments

"A pretty well made Biere de Garde—can take some more age—but the malt flavors are good. Well balanced by some alcohol and just enough hops. Well done."

Runners-Up

Silver Medal: Rod Romanak, Kailua-Kona, HI, Kona Coast Barley Boys

Bronze Medal: Roxanne Hastings, Edmonton, AB, Edmonton Homebrewers

Judges' Comments

"The gushing out to start this beer really harms the overall impression. After the gush, I really liked this beer. It could use a little more of both acid and Brettanomyces. Fruitiness is perfect. Nice beer! Try to eliminate the late astringency."

"Good beer. Mild astringency, but good fruit lambic."

Category 20: Lambic & Belgian Sour Ale



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by The Beverage People

Antoinette Hodges, Carlsbad, CA, Quality Ale & Fermentation Fraternity (QUAFF)

"Framboise 2001", Belgian-Style Lambic, Framboise

Ingredients for 5 U.S. gal (19 L)

8.75 lb (3.97 kg) Belgian pilsner malt
3.0 lb (1.36 kg) wheat malt
0.25 lb (113 g) sauer malt
1.0 oz (14 g) Czech Saaz pellet hops, 3.5% alpha acid (90 min.)
92 oz (2.72 L) Oregon Raspberry Concentrate
32 oz (0.94 L) organic mixed berry juice
1.0 oz (29 mL) raspberry flavoring
Wyeast No. 3278 B Brettanomyces Bruxellensis
Wyeast No. 4733 Pediococcus Dry ale yeast to prime

• Original specific gravity: 1.063
• Final specific gravity: 1.012
• Boiling time: 90 minutes
• Primary fermentation: 14 days at 68° F (20° C) in glass
• Secondary fermentation: 591 days at 65-80° F (18-27° C) in glass

Brewer's Specifics

Mash in at 124° F (51° C) for 10 minutes. Raise to 152° F (67° C) and hold for 50 minutes. Mash out at 168° F (76° C) for 15 minutes. Add bacterial cultures to secondary.

Runners-Up

Silver Medal: Steve Piatz, Eagan, MN, Minnesota HomeBrewers Association (MhBA)

Bronze Medal: Pete Devaris, Anchorage, AK, Great Northern Brewers

Category 21: Fruit Beer



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Steinbart Wholesale

Robert Kent, Salt Lake City, UT, Zion Zymurgists Hops (ZZ HOPS)

"Triple A", Classic Style Apricot Ale

Ingredients for 11 U.S. gal (41.6 L)

15.0 lb (6.8 kg) Great Western 2-row pale malt
1.0 lb (0.45 kg) Great Western Munich malt
1.0 lb (0.45 kg) Great Western wheat malt
0.25 lb (113 g) Great Western 60° L caramel malt
8.0 oz (236 mL) apricot extract
0.75 oz (21 g) Columbus pellet hops, 14% alpha acid (60 min.)
White Labs WLP 001 California ale yeast
forced CO₂ to carbonate

- Original specific gravity: 1.037
- Final specific gravity: 1.008
- Boiling time: 60 minutes
- Primary fermentation: 7 days at 69° F (21° C) in plastic
- Secondary fermentation: 14 days at 69° F (21° C) in steel

Brewer's Specifics

Mash grains at 151° F (66° C) for 60 minutes. Add extract in secondary.

Judges' Comments

"Malt and hops balance apricot aromatics—acidity of apricot balances malt. Very refreshing. Great job!"

"This is a very nice mix of flavors! The apricot really brings it to life. Great effort! The carbonation could be a bit bigger and the body is a bit strong."

Runners-Up

Silver Medal: Jim Weiner, La Jolla, CA, Quality Ale & Fermentation Fraternity

Bronze Medal: John Lott, Canton, GA

Category 22: Spice/Herb/Vegetable Beer



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Marin Brewing Company

2003 NHC NINKASI AWARD WINNER

Curt Hausam, Salem, OR, Strange Brew

"Thrilla with Vanilla", Foreign Style Stout with Vanilla Beans

Ingredients for 20 U.S. gal (75.7 L)

- 40.0 lb (18.16 kg) Hugh Baird pale malt
- 5.5 lb (2.49 kg) roast barley
- 3.0 lb (1.36 kg) chocolate malt
- 3.0 lb (1.36 kg) caramel Munich malt
- 2.0 lb (0.9 kg) dextrin malt
- 2.0 lb (0.9 kg) carastan malt
- 1.0 lb (0.45 kg) flaked barley
- 10-12 vanilla beans per 5 gallons (in secondary)
- 6.0 oz (170 g) E. Kent Golding plug hops, 7.5% alpha acid (60 min.)
- 4.0 oz (113 g) E. Kent Golding plug hops, 7.5% alpha acid (15 min.)
- Wyeast No. 1028 London ale yeast
- Forced CO₂ to carbonate

- Original specific gravity: 1.078
- Final specific gravity: Unknown
- Boiling time: 90 minutes
- Primary fermentation: 5 days at 65° F (18° C) in glass
- Secondary fermentation: 3 days at 70° F (21° C) in glass

Brewer's Specifics

Mash grains for 90 minutes at 154° F (68° C). Rack finished beer onto vanilla beans and condition as above.

Judges' Comments

"Alcohol warmth, roasted/chocolate malt...very well balanced, very drinkable. Excellent nose."

"Great vanilla nose that fades a little against the strong (but good) roast flavor. A real pleasure to drink—I'll have another."

Runners-Up

Silver Medal: Greg Wondga, Edmonton, AB, Edmonton Homebrewers Guild

Bronze Medal: Mark Norbury, Salem, OR, Strange Brew

Category 23: Smoke-Flavored Beer



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Alaskan Brewing Company

Ed Seaman, Streamwood, IL, Urban Knaves of Grain (UKG)

"Smoked American Honey Wheat"

Ingredients for 5.25 U.S. gal (19.8 L)

- 6.6 lb (3 kg) Cooper's wheat malt extract
- 1.0 lb (0.45 kg) buckwheat honey (end of boil)
- 1.0 lb (0.45 kg) alder wood home-smoked malt
- 0.5 lb (227 g) wheat malt
- 0.25 lb (113 g) flaked wheat
- 1.0 oz (28 g) Hallertau pellet hops, 4.4% alpha acid (45 min.)

White Labs WLP 001 California ale yeast
Forced CO₂ to carbonate

- Original specific gravity: 1.048
- Final specific gravity: 1.010
- Boiling time: 45 minutes
- Primary fermentation: 7 days at 64° F (18° C) in glass
- Secondary fermentation: 14 days at 64° F (18° C) in glass

Brewer's Specifics

Mash grains at 155° F (68° C) for 30 minutes. Strain, add extract and commence boil. Add honey at end of boil.

Judges' Comments

"A good refreshing brew, but just a bit sweet. Smoke is not readily apparent—not enough to characterize as a smoked beer"

"Good base beer. Well integrated. Light to moderate smokiness. (This fades with time and storage.) No beer faults."

Runners-Up

Silver Medal: Jim Bianchi, Cleveland, OH, Society of Northeast Ohio Brewers (SNOBs)

Bronze Medal: Steve Schmitt, Anchorage, AK, Great Northern Brewers

Category 24: Specialty/Experimental/Historical Beer



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Redhook Brewery

2003 NHC NINKASI AWARD WINNER

Curt Hausam, Salem, OR, Strange Brew

"Vanilla Sky", Imperial Cream Stout with Vanilla Beans

Ingredients for 20 U.S. gal (75.7 L)

- 40.0 lb (18.16 kg) Hugh Baird pale malt
- 5.5 lb (2.49 kg) roast barley
- 3.0 lb (1.36 kg) chocolate malt
- 3.0 lb (1.36 kg) caramel Munich malt

2.0 lb (0.9 kg) dextrin malt
 2.0 lb (0.9 kg) carastan malt
 1.0 lb (0.45 kg) flaked barley
 10-12 vanilla beans per 5 gallons (in secondary)
 6.0 oz (170 g) E. Kent Golding plug hops, 7.5% alpha acid (60 min.)
 4.0 oz (113 g) E. Kent Golding plug hops, 7.5% alpha acid (15 min.)
 Wyeast No. 1028 London ale yeast
 Forced CO₂ to carbonate

- Original specific gravity: 1.078
- Final specific gravity: Unknown
- Boiling time: 90 minutes
- Primary fermentation: 5 days at 65° F (18° C) in glass
- Secondary fermentation: 3 days at 70° F (21° C) in glass

Brewer's Specifics

Mash grains for 90 minutes at 154° F (68° C). Rack finished beer onto vanilla beans and condition as above.

Judges' Comments

"A beer that hits the base beer style right on [with] well balanced and fresh-like vanilla. Great concept."

Runners-Up

Silver Medal: Stephen Klump, St Louis, MO, Ann Arbor Brewers Guild

Bronze Medal: Jeff Lannon, Dennis Johnson, Erich Schenk, Alpine, CA

Category 25: Traditional Mead



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Winemaker Shop

2003 NHC MEADMAKER OF THE YEAR

**Paul Zocco, Andover, CT,
Hop River Brewers**

Sweet, Still Traditional Mead

Ingredients for 5 U.S. gal (19 L)

15.0 lb (6.8 kg) orange blossom/clover honey
Wyeast sweet mead yeast

- Original specific gravity: 1.110
- Final specific gravity: 1.038
- Boiling time: n/a
- Primary fermentation: 3 months at 70° F (21° C) in glass
- Secondary fermentation: 7 months at 70° F (21° C) in glass

Judges' Comments

"Very nice mead, very drinkable. Good balance and good honey expression. Also a very pretty mead—sparkling and brilliant."

"A nice mead overall. Well balanced flavor and acidity."

"Excellent mead overall. Could perhaps use more residual sweetness, but the balance is good in general. Great job."

Runners-Up

Silver Medal: Rich Janevicius and Ellen Janevicius, Naperville, IL, Urban Knaves of Grain (UKG)

Bronze Medal: Steve Piatz, Eagan, MN, Minnesota HomeBrewers Association (MhBA)

Category 26: Fruit Mead



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Bacchus & Barleycorn Ltd.

Shane Coombs, Warrenville, IL, Urban Knaves of Grain (UKG)

"Sharico Muscat Mead", Still, Sweet Muscat Payment

Ingredients for 5 U.S. gal (19 L)

36.0 lb (16.32 kg) Muscat grapes
12.0 lb. (5.44 kg) orange blossom honey
Lalvin CVD47 yeast
White Labs Sweet Mead yeast

- Original specific gravity: 1.150+
- Final specific gravity: 1.045
- Boiling time: n/a
- Primary fermentation: 10 days at 70° F (21° C) in plastic
- Secondary fermentation: 120 days at 65° F (18° C) in glass
- Tertiary fermentation: 90 days at 60° F (16° C) in glass

Brewer's Specifics

Heat honey to 190°F (88° C) and hold for 15 minutes.

Judges' Comments

"A nice mead, though the grapes are not pronounced. The honey still gets through. Very nice floral notes from the honey in aroma."

"Nice mead! Sweetness is slightly overpowering—I would like a bit more balance. Would make a nice after-dinner treat. Could use more grapes in the grape/honey balance."

Runners-Up

Silver Medal: Thomas Yaeger, Wyandotte, MI, Downriver Brewers Guild

Bronze Medal: Steve Schmitt, Anchorage, AK, Great Northern Brewers

Category 27: Herb & Spice Mead and Braggot



Gold Medal

AHA 2003 National Homebrew Competition

Category award sponsored by Home Brew Supply LLC

Breck Tostevin, Anchorage, AK, Great Northern Brewers

"Don's Ginger Mead 2", Still, Sweet Metheglin

Ingredients for 5 U.S. gal (19 L)

18.0 lb (8.16 kg) orange blossom honey
2.0 oz (57 g) ginger
3.0 pieces star anise
6.0 whole cloves

Wyeast No. 3184 Sweet Mead yeast

Beverage People Mead Nutrient Sparkolloid to clarify

- Original specific gravity: 1.132
- Final specific gravity: 1.034
- Boiling time: n/a
- Primary fermentation: 2 months at 70° F (21° C) in glass
- Secondary fermentation: 5 months at 70° F (21° C)
- Tertiary fermentation: 3 months at 60° F (16° C)

Brewer's Specifics

Steep ginger at 130° F (54° C). Boil star anise and cloves for 10 minutes, add tea to must.

Judges' Comments

"Nice; some flavors come out better than others. Nice balance of flavors. No one is dominant, except in the nose."

"A smooth metheglin with a variety of flavors supporting the honey. Only a slightly astringent finish mars the overall effect. Excellent overall."

Runners-Up

Silver Medal: Carl Vogel, Temple Terrace, FL, Central Florida Home Brewers

Bronze Medal: John Rucinski and Sheila Rucinski, Dearborn, MI, Fermental Order of Renaissance Draughtsmen (F.O.R.D.)

Category 28: Cider



Gold Medal

AHA 2003 National Homebrew Competition

2003 NHC CIDERMAKER OF THE YEAR

Steve Olson, Byron Burrier, Steve Mattheeuussen, Menasha, WI, Appleton Libation Enthusiasts

Medium Still Special, London Cider

Ingredients for 6.5 U.S. gal (19 L)

6.5 gallons McIntosh, Sparta and Empire late harvest
1.0 Tbsp. Pectic Enzyme
Yeast Wyeast 1318 London Ale III

- Original specific gravity: 1.052
- Final specific gravity: 1.001
- Boiling time: n/a
- Primary fermentation: 21 days at 70° F (21° C) in glass
- Secondary fermentation: 60 days at 55° F (13° C) in glass

Brewer's Specifics

Apples picked and pressed after first frost to give best flavor and highest sugar content.

Judges' Comments

"This is a good session cider. I'd personally prefer a more assertive drink, but this sits comfortably in style. Work to express the apples more in the nose."

"Nice cider. Pretty clean. I like the balance. A very slight astringent finish. Somewhat bland."

Runners-Up

Silver Medal: Bruce Franconi and Joseph Franconi, Red Hook, NY Hudson Valley Homebrewers

Bronze Medal: Frank Kobes, Walden, NY, Hudson Valley Homebrewers

Category 29: New Entrants

Gold Medal



AHA 2003 National Homebrew Competition

John Rohde, Kenosha, WI, Bidal Society of Kenosha

"Gail's Lust", Medium, Still Cyser with Apple Blossom Honey

Ingredients for 12 U.S. gal (45.42 L)

20.0 lb (75.7 kg) apple blossom honey
10.0 gallons (37.8 L) raw apple cider
10.0 Campden tablets
Danstar Nottingham dry ale yeast

- Original specific gravity: 1.100
- Final specific gravity: 1.024
- Boiling time: n/a
- Primary fermentation: 75 days in glass
- Secondary fermentation: 130 days in glass
- Tertiary fermentation: 190 days in glass

Brewer's Specifics

Heat cider warm enough to dissolve honey. Add 10 Campden tablets. Let rest 24 hours then pitch yeast.

Judges' Comments

"A very enjoyable drink! The alcohol burn as it closes may be a touch too strong—it leaves a tingle in my chest. Could use more honey flavor? Listed as still, though it clearly had some life to it!"

"Very drinkable, sweet with generous apple character—alcohol—although not still."

Runners-Up

Silver Medal: Phil Kitkowski, Novi, MI

Bronze Medal: Jay Wince, Zanesville, OH

BY CHARLIE PAPAZIAN

Sandra's Sly and Skinny Wit Beer

The American Homebrewers Association's Teach a Friend to Homebrew Day is once again soon upon us (November 1), so it's worth planning your get-together right now. I regularly invite friends and friends of friends over to the house to show them how to make beer. They are 5-gallon (19 L) batches of malt extract beers, with perhaps a pound (454 g) or less of roasted or crystal malt added. Whole hops bring the whole process of ingredient combination into perspective.

The huge 10-gallon pot is kept on the shelf. The official brewers paddle is left hanging. The mash lauter vessels and cultured yeasts are out of sight. Extract, a few grains, a vial or squirt tube of liquid yeast, a household wooden spoon and a 4-gallon pot are the simple accessible tools of the teaching experience. Never mind the propane cooker that blast-heats the wort. We use simple stovetop heating. It's all meant to present a process that is perceived as within reach to anyone.

The results are new homebrewers for life and, as an added benefit, a great batch of beer. And even more important, a new convert to the appreciation and passion of beer, whether homebrewed or professionally craft brewed. With a great sense of satisfaction I get to drink other people's beer rather than always feel like I have to bring my own when out and about.

I have to say at this point that nothing has given me quite as much pleasure as recently having guided my wife, Sandra, through her first batch of beer. For years she's been threatening to learn how to make beer after watching me brew nearly 100 batches over the past six years. Well, the threats became quite serious when Sandra made it clear that she wouldn't bring cheese, olives, pickled eggs, pretzels, sausage, bread and other snacks to me



With The Professor hovering nearby, Sandra becomes a convert to relaxing and enjoying a homebrew.

**I have to say at this point
that nothing has given me
quite as much pleasure as
recently having guided my
wife, Sandra, through her
first batch of beer.**

while brewing unless she could get in on the action. You see, I love brewing and I fear that, well, if there was another in the household brewing, then I might not find the need to brew as much as I do. She persisted. I gave in.

What to brew? Sandra loves the flavor of Belgian and Bavarian/German style wheat beers. These styles have never been brewed

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in my brewery. I never found the need, because I don't particularly care for these styles. (Sorry folks, I'm human too.) The choice was made: Belgian wheat beer or Wit Bier or White beer or Bier Blanche or Tarawber; call it what you wish, it's the same thing. Very pale in color, low in hop character, a refreshing acidic tang, balanced with the aroma and flavor of coriander and orange peel. Made with barley malt, wheat malt or wheat with the option of oats as well.

Keeping it simple was simple at my local homebrew shop. A combination of a Brewferm Tarawber kit (with oats, wheat, malt, hops and spices) along with Cooper's Wheat malt extract made the process extraordinarily easy for Sandra to deal with. Take a look at the recipe and see for yourself.

The best part of this whole process and something that I didn't foresee was that I poured myself a beer (actually a few beers), ate some great food and directed the whole process literally from the seat of my pants, relaxing, not worrying, having a homebrew—sitting in my "director's" chair with-

out lifting a finger. "Do this. Do that." Oh to be king. I could get used to this.

So let's cut the shuck and jive and get on with the recipe.

Sandra's Sly and Skinny Wit Bier

or Magro Veio Gope Cerveja Trigo (that's Brazilian Portuguese with a Paraiba accent!)

Ingredients recipe for 5 U.S. gallons (19 L)

- 3.3 lb (1.5 kg) Cooper's Wheat Malt extract syrup
 - 3.3 lb (1.5 kg) Brewferm Tarawber Kit (hop flavored) extract syrup
 - 1.4 lb (0.64 kg) light honey
 - 0.04 oz (11 g) German Hallertauer or Mt. Hood whole hops (2 HBU/56 MBU) – 60 minutes boiling
 - 0.5 oz (14 g) freshly crushed coriander seed
 - 0.6 oz (17 g) dried orange peel (available at homebrew shops)
 - 0.25 tsp (1.25 ml) powdered Irish moss
 - 0.75 cup (180 ml measure) corn sugar (priming bottles) or 0.33 cups (80 ml) corn sugar for kegging
- Wyeast or White Labs Belgian wheat (Wit) beer yeast. Note two packages of one or the other of these yeasts will produce better fermentation performance.

- Target Original Gravity: 1.048 (12° P)

- Approximate Final Gravity: 1.012–1.014 (3-3.5° P)
- IBUs: 16
- Approximate color: 7 SRM (14 EBC)
- Alcohol: 4.5% by volume

Add malt extracts to 2 gallons (8.5 L) water, stir to dissolve, add hops and bring to boil. Take care not to boil over during the first 5 minutes of the boil. Maintain boil for 50 minutes. Then add crushed coriander seed and orange peel and boil for a final 10 minutes. Turn off heat.

Strain out and sparge (rinse) hops and direct the hot wort into a sanitized fermenter to which 2 gallons (8.5 L) of cold water has been added. If necessary, add cold water to achieve a 5-gallon (19 L) batch size.

Pitch yeast when temperature of wort is about 70° F (21° C). Maintain fermentation temperatures between 68 to 75° F (20-24° C). When fermentation shows signs of calm and stopping, transfer (rake) from your primary to a secondary and continue to ferment to completion.

Prime with sugar and bottle or keg when complete.

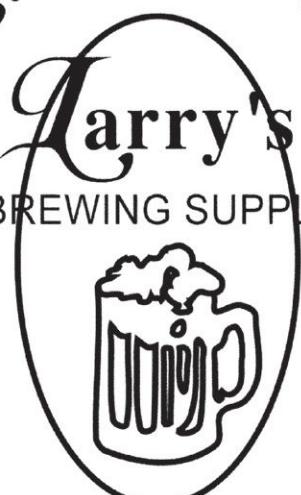
For her next batch Sandra wants to brew a hoppy India Pale Ale. Hey, that's my territory! Oh well, I guess it's all about sacrifices, sacrifices.

Charlie Papazian is president of the Association of Brewers.



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HOMEBREW BITTERING UNITS (HBU_s) are a measure of the total amount of bitterness in a given volume of beer. Homebrew Bittering Units can easily be calculated by multiplying the percent of alpha acid in the hops by the number of ounces. For example, if 2 ounces of Northern Brewer hops (9 percent alpha acid) and 3 ounces of Cascade hops (5 percent alpha acid) were used in a 10-gallon batch, the total amount of bittering units would be 33: (2 x 9) + (3 x 5) = 18 + 15. Bittering units per gallon would be 3.3 in a 10-gallon batch or 6.6 in a five-gallon batch, so it is important to note volumes whenever expressing bittering units.

INTERNATIONAL BITTERNESS UNITS (IBUs) are a measure of the bitterness of a beer in parts per million (ppm), or milligrams per liter (mg/L) of alpha acids. You can estimate the IBUs in your beer by using the following formula:

$$\text{IBU} = \frac{\text{ounces of hops} \times \% \text{ alpha acid of hop} \times \% \text{ utilization}}{\text{gallons of wort} \times 1.34}$$

Percent utilization varies because of wort gravity, boiling time, wort volume and other factors. Homebrewers get about 25 percent utilization for a full one-hour boil, about 15 percent for a 30-minute boil and about 5 percent for a 15-minute boil. As an example, 1 ounce of 6 percent alpha acid hops in five gallons of wort boiled for one hour would produce a beer with 22 IBUs:

$$\text{IBU} = \frac{1 \times 6 \times 25}{5 \times 1.34} = 22 \text{ IBUs.}$$

METRIC BITTERNESS UNITS (MBUs) are equal to the number of grams of hops multiplied by the percent alpha acid.

BY PROFESSOR SURFEIT

Color Strips

Dear Professor,

Beer style guidelines include several parameters. I can measure the original and final gravity of my beers and I can make a reasonable estimate of bitterness (IBUs), but I do not have a good method to estimate the color. Are color charts available to the homebrewer that can give me a way to estimate the SRM of my finished beer? I know the color perception is different depending on the glass the beer is served in, but if a person were to use the sample from a hydrometer vial, that would provide a reasonable standard.

This standard could be compared to a color chart. The color chart would need to be printed on a clear plastic sheet (like an overhead visual) so the colors would be transparent rather than opaque. Does anything like this exist? I know it would not be an exact measurement of color, but it would make for a pretty easy way for homebrewers to at least estimate the color of their beer.

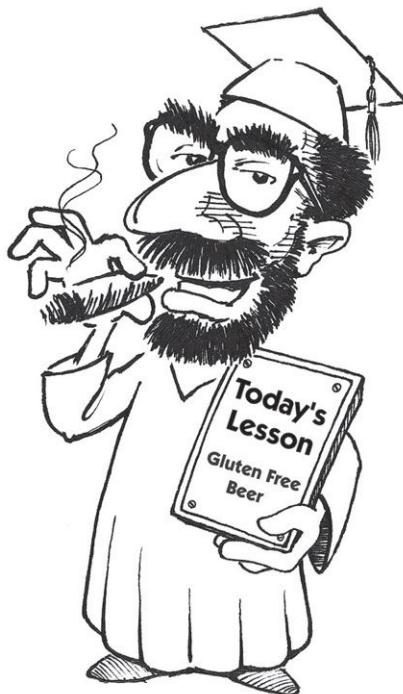
Thanks,

George Musselman

Hi George,

You are just one of dozens of inquiries we get for a set of color strips that we know used to be available to homebrewers. Unfortunately the person who used to make this handy tool is no longer interested in providing this product. We'll keep trying, but so far no luck.

Meanwhile you can use any of the very accessible recipe formulators to plug in your ingredients and calculate quite accurately the color of your brew. Check out Recipator (<http://bbd.org/recipator/>), SUDS program (a shareware available at the Web site <http://oldlib.com/suds>), Promash software



(www.promash.com) or take a look at www.beertools.com for their recipe formulator.

Digitally ahead,

The Professor, Hb.D.

(Editor's Note: See related article on beer color in this issue!)

Gluten Free Beer

Dear Michael Jackson,

My father has been diagnosed with celiac disease, which unfortunately prohibits him from eating or drinking anything derived from barley, wheat, oats or rye. Needless to say, we are trying to come up with a solution to this nightmare of a problem. Is it possible to brew a beer without barley? We have heard that buckwheat, sorghum and rice may be of some use in the brewing of a beer-

like beverage. Could you help us find ingredients and a sample recipe? Any help would be greatly appreciated.

Thank you,
Alan Pilgrim
Littleton, N.H.

Dear Alan,

Michael Jackson passed on your question to me. I've not yet formulated a way to brew a gluten-free beer, but I know at this very moment it is being worked on by two Belgian breweries. Huyge Brewery in Belgium is working on a 51-percent Fair Trade cereal "quinoa" beer. Huyge is the brewer of Delirium Tremors. Also Proef Brouwerij (Pilot Brewery)—near Ghent, also called the Andelot Brewery—is making a "Chica Beer." This is a gluten-free organic beer that is 100-percent organic, 100-percent gluten-free, 100-percent Fair Trade, made with about 50-percent quinoa, 15-percent buckwheat, 15-percent millet and 20-percent rice. I'm quite sure (but not positive) that malt is absent and the use of enzymes converts starches to fermentable sugars.

They don't produce a whole lot of this stuff, but keep your eyes peeled, because they are likely going to import these unique products into the USA. I know of no American brewery that is currently heading in this direction, but I imagine it is only a matter of time when you will have easier access to gluten-free beer.

Glutenly yours,
The Professor, Hb.D

(Editor's Note: The September/October 2002 issue of **Zymurgy** (Vol. 25, No. 5) included an article on how to make gluten-free beer at home.)

The Nobility of Hops

Dear Professor,

I'm a homebrewer and I want to know what the term "noble hops" means.

Thanks!

John Mashtun

Dear John,

Noble hops are generally identified as a group of medium-to-low alpha acid hops that have favorable flavor and aromatic characters. Purists cite four hops from Germany and the Czech Republic as belonging to this group: Saaz, Hallertau, Tettnang and Spalt. Other examples of hops that I believe have "noble" character are: Crystal German Tradition, Hersbrucker, Liberty, Mt Hood, Santiam, Spalt (German) Select, Spalt Classic, Strisselspalt, Vanguard and Lublin.

That should keep you noble for a while,
The Professor, Hb.D.

Clone Turned Bomb

Dear Michael Jackson,

I am a new brewer. I made a mistake and need help from an expert on how to possibly fix it. I have asked several times on message boards, but received no real answers.

I made a Bass Clone from a Malt Extract kit. Either the barleywine I was drinking or my thick skull prevented me from realizing that it was ale and not a lager while fermenting! I fermented at a cool temperature, around 52 degrees. The gravity readings were not to my liking so I called my supplier and he said it was OK to bottle. I went ahead and bottled. I feel they should have asked more questions of me.

My question is: how can I save the batch? Obviously the fermentable sugars were not able to convert to alcohol and lower my FG. (Original gravity was 1.050 and final gravity was 1.044.) Again, it is bottled with priming sugar. It tastes like non-carbonated beer-flavored syrup!

The only thing I could think of would be to slowly gather all the beer into a fermenter, repitch some yeast, reprime and bottle. I don't know. It may not taste like

Bass, but hopefully it will taste like beer.

Thanks,

Joe Buck

Dear Joe,

Michael forwarded your question to me. Frankly speaking this batch was really blown. And through a lack of communication you got very wrong advice. Too bad no one told you a very simple thing you could have done to save this batch.

Essentially you brewed an ale and fermented at temperatures too cold for ale yeast to work. I can only hope for your safety that you have been storing this "beer" in a cold place and thus the beer is not able to ferment in the bottle. If you were to raise the temperature of those bottles to ale fermentation

I would be VERY CAREFUL in handling these bottles. Wear protective eye, head, hands, body and crotch wear (protect yourself fully) and get rid of those potentially dangerous bottled bombs of explosively carbonated beer. Destroy them and chalk it up to experience.

Sorry about that,

The Professor, Hb.D.

Rice Hulls and Mashing

Dear Professor,

I study at the University of Udine and now, with my teacher Stefano Buiatti and brewer Agostino Arioli, we want to know something about the use of rice husks included in the mash. Is it useful? Can you help me? I'm looking for some articles or links about this topic.

Cheers,

Rocco Menna Pordenone

Italy

Dear Rocco,

This question is occasionally asked and discussed on our Association of Brewers Forum for professional brewers who are members of the AOB. Here is a discussion about rice hulls that occurred over a year ago (I archive this stuff).

Q: A few questions with regards to using rice hulls in the mash:

Assuming a 50:50 grain bill of malted wheat and 2-row malted barley, what percentage of rice hulls should be considered in order to free up the mash for runoff purposes?

Can the rice hulls be added at the mill and crushed during mash-in, or should they be added directly to the mash tun without milling?

A: "I used {rice hulls} in the Rye Beer that Pyramid Ales made in the 1990s, which contained 25-percent malted rye, and they helped a lot. We used them at a rate of 1 percent of total grist weight. (That's 1.6 ounces for 10 pounds mash or 45 grams for 4.5 kilograms.) We added them directly to the mash mixer after foundation water was in but before beginning to mash in. But we had a four-vessel brewhouse with a separate mash mixer and lauter tun. If you have mash directly into the lauter, my instinct would be again to add the hulls directly into the mash during the early part of the mash-in to allow them to get well

I made a Bass Clone from

a Malt Extract kit. Either

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ranges above, say, 65° F (18° C) then you'd have exploding beer.

All you needed to do in the first place was raise the temperature of your fermentation to at least 65° F (18° C) and better yet to 70 to 75° F (21-24° C) and you would have had complete fermentation.

What can you do to save your brew? Not much without a lot of luck. Pouring it back into your fermenter and completing fermentation is not likely without a whole lot of contaminating bacteria and wild yeast getting involved.

mixed in. I would probably not recommend running them through the mill, as you want them intact to help form a good bed."

A: "I brew Hefeweizen with a 60-percent wheat/40-percent barley mix. I utilize around 850 pounds of grain in a 15-barrel mash and use half a bag (27.5 pounds) of rice hulls. {That's about 5 ounces for 10 pounds mash or 135 grams for 4.5 kilograms} This may be overkill but it has never hurt the flavor of my beer (why would it?) and I've never had a stuck mash! I've even used an entire bag and had no problems. So if you're worried, err on the high side! I also send it straight through the mill without problems, however, I do mix it completely throughout the 15 or so bags of malt prior to doughing in. Simply, I take an empty malt bag and give it 1 scoop of malt, 1 scoop of wheat and 1 scoop of rice hulls until it's all mixed!"

*There you go, Rocco.
Hope this helps,
The Professor, Hb.D.*

What's Going On with Pilsner Urquell?

Dear Professor,

The article about Pilsner Urquell in the May/June 2003 issue of **Zymurgy** raised some questions that I wish to place before you. To begin, only recently did I find a store that carried Pilsner Urquell (yes, I live in the far outback). I bought a six-pack and looked forward to what has been described as the closest thing to beer nirvana, and was terribly disappointed. The stuff came in a green bottle and tasted catty. A colleague assured me it tasted just like it always did and I took his word for it since he is otherwise knowledgeable about beer. For my part, if what I got was a fair example of Pilsner Urquell, I not only bought my first six-pack, but also my last.

First, why do they package in green bottles? Everything I have ever read suggests that we should stay clear of anything but brown bottles to minimize the chances of the beer being light struck. Given the distance and time required for transport, I should think the producers of Pilsner Urquell would exercise every precaution to avoid reaction to light or anything else that could be detrimental to the quality of

their product. Even Budweiser comes in brown bottles!

Secondly, everything I have ever read about Pilsner Urquell, with one exception, makes a big issue of the Czech-grown Saaz hops, which reputedly are used exclusively in its production. However Mark Garetz, in a recent issue of *Brew Your Own*, stated that the Pilsner Urquell people use Cluster hops for bittering and Saaz only for finishing. A reader questioned him on this point and he responded that he got his information from the hop salesman who sold the Cluster hops to them. What can you tell me on this count?

If, in fact, Cluster hops do find their way into Pilsner Urquell, could that explain the catty character I observed in the six-pack I purchased? I have been brewing successfully for a dozen years and only once did I use Cluster hops. I discontinued them because I got a catty brew. I have subsequently read that our British friends eschew Cluster for the same reason. Your thoughts and comments on this point would also be appreciated. Thank you for your input.

All for better brew,
C. Wayne Freark
Alamosa, Colo.

Dear Wayne,

You are right on track with your thinking. "Why," you ask? Green bottles let in the kind of light that photo-chemically reacts with hop compounds to produce skunky or catty aromas and flavors. So why do they do this? Green bottles are more attractive to the consumer. It's something about the perception of elegance and the willingness to pay a higher price for a beer in a green bottle rather than a brown bottle. But the beer quality changes. Weirdly, a lot of consumers have grown to like the "catty-skunk" flavor and aroma that is associated with "light struck" beer. That is one of the reasons why Corona is the number one imported beer into this country. That is why Heineken is so popular.

But what about you? Seek out Pilsner Urquell on draft or in cans and you'll find the quality that you are reminiscing about—as long as you get draft beer served out of clean tap lines and cans that are not too old.

What about the hops themselves? I'll take your word for it. Within the last

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decade Pilsner Urquell was bought by South African Breweries (the same brewing company that bought Miller Brewing Co.) and “upgraded” all of the equipment and made beer production more efficient. A lot of changes were made and I’m not sure, but it would not surprise me if they would use less expensive hops than Saaz to bitter their beer. Clearly to both you and me the Pilsner Urquell of legendary fame is no longer available. It is a different beer than it used to be—for better or worse, depending on your perspective.

Do Cluster hops contribute a “catty” character? I’ve heard from a lot of brewers that it does to some degree and that it certainly shouldn’t be used as a finishing hop unless you have an affinity toward that character.

*Yearning for what has been lost, but still appreciating fresh Urquell,
The Professor, Hb.D.*

Up Your Mash Out Temperatures

Dear Professor,

I’ve been all-grain brewing in a simple Rubbermaid cooler arrangement for about three years. I have found it to be a very simple way to produce great beer and get very good extraction rates that have improved as I have refined my techniques. My question comes from one of the changes I have made in particular.

One of the disadvantages of using a cooler or bucket system is you cannot simply change your temperature without adding more water. Once you figure out your system, hitting your desired temperature is not difficult. However, it would be nice to raise the temperature to 168° F (75° C) for mash-out. It always seemed to me that getting closer to this temperature would help sparging.

I figured that while recirculating before sparging, I couldn’t hurt to heat the runnings on the burner for a bit to bring the temperature to right around 170° F (77° C) before pouring it back into the mash. To do this, I usually introduce a little more water than normal to the mash in order to not create too much bed compaction as I draw off the runnings.

For recirculating, I slowly drain runnings into a tag-team of two small pots. This way

the flow keeps running slowly into one pot while the other is warming. This technique does not bring me all the way up to 168° F (75° C) but it can get me into the low- to mid-160s without taking my runnings to over 170° F (77° C). I have not noticed astringency or haze differences in the batches I do this for compared to ones I didn’t. Doing this helps the runoff and extraction, doesn’t hurt the runnings and also encourages me to recirculate longer.

My concern is that I have read very little about doing this and was wondering if there was something technically wrong with it (though I am very content with the outcome, which is most important, I am an engineer and love technical details). It may just be a case of increasing the complexity of the system for minimal gains; however, of the changes I have made to mashing, this one seemed to make a significant difference (milling adjustments being the biggest one). It is an easy way for cooler people to self-automate a heated mash circulation system. Please let me know any particular pitfalls I should look out for or additional suggestions with this technique.

Thanks,
Mark Emiley

Hey Mark,

Thanks for the tips. The only thing that some folks might get freaked out about is that you are introducing air into the mash. Introducing air into the mash during mash out is called “hot-side aeration” and theoretically yields to the development of compounds that are precursors to staleness. That’s to say a beer will lose its fresh taste more quickly. But my opinion is that for homebrewers who are brewing for home consumption, this is not an issue. You bottle or keg your beer. It travels from capper to closet or cellar to refrigerator and does not get the abuse of commercial beer experiences.

But if you are brewing for competition and your beer must travel distances under uncertain conditions then this could be a factor worth considering, but certainly not to worry about.

*Thanks for contributing to American Homebrewers Association members,
The Professor, Hb.D.*

What the Helles?

Good day Professor,

Homebrew guru! To jog your memory, we met at the Livonia American Homebrewers Association Conference a few years back. Fifty-one all-grain brews have gone fast since then. Today I enjoyed a Helles brewed to your specs last month with a touch of aromatics. Great taste, phenomenal surroundings! Looking out on a lake with a slight southerly breeze in my face; also listening to a morning dove cooing and black fly activity at a minimum.

Here’s my question: would the brew fit style guidelines with the higher SRM? Color is about amber yellow. Grain bill for 23 liters was:

6.0 lb	2-row
5.0 lb	Vienna
0.5 lb	Aromatic
0.5 lb	Carapils

and I used White Labs 820 Oktoberfest lager yeast.

Regards,
Vince Stewart
AHA Member

Hiya Vinny,

I’m with you. That Helles recipe is one of my all-time favorites. I’ve received a lot of positive appreciation for that recipe from readers like you. I entered your recipe into my recipe software and get a color of about 8 SRM (16 EBC). That color is a bit darker than the golden color typical of Helles stylistically. The color begins to enter the Oktoberfest range, but the alcoholic strength isn’t there for that style. It also begins to enter the Vienna lager range, but Vienna lagers have a bit more hop bitterness. So you’ve made a fantastic lager that does not fit into the traditional range of Helles in color. But what the Helles. Enjoy it for what it is.

*Love your beer,
The Professor, Hb.D.*

Hey homebrewers! If you have a brewing-related question for Professor Surfeit, send it to “Dear Professor,” PO Box 1679, Boulder CO 80306-1679; fax 303-447-2825 or e-mail professor@aub.org.

BY RAY DANIELS

Brewers and Statesmen: Public Office for Those Who Brew

In early June, Denver, Colo. elected its first modern brewer-mayor as Wynkoop brewpub founder and president John Hickenlooper prevailed in a hotly contested race. Now a homebrewer and *Zymurgy* reader seeks the mayor's job in Niagara Falls, N.Y.

For the past 12 years, Paul Dyster has owned and operated Niagara Traditional Homebrewing Supplies. Along the way he has become not only an AHA member and active participant in the Niagara Association of Homebrewers, but also a BJCP national judge and columnist for the Home Wine and Beer Trade Association (HWBTA). In addition, he was elected to the Niagara Falls city council several years ago.

Dyster's candidacy follows in the footsteps of Hickenlooper, who made his name in Denver by leading revitalization of the lower downtown or "LoDo" district with his multi-story Wynkoop brewpub that opened in 1988. Both men head businesses based on brewing, augmented by a commitment to civic responsibility and service.

Dyster finds this to be a logical thing. "Homebrewers are a diverse group of people, but a common thread runs through them all," he said. "They seem to be serious about the things it is important to be serious about but still know how to have fun."

This sense of fun-loving responsibility has caused Dyster to unite environmental and historic preservation groups with homebrewers in an effort to capture first the democratic nomination in a four-way September 9 primary and then the mayor's office in the November 4 general election.



Despite the demands of campaigning, Dyster has still found time to brew and had an old ale ready for bottling when we talked to him in early July. "[Campaigning] has cut me back from about 50 percent all-grain brewing to mostly extract brews to save time," he says. In what may be a nationwide "first," he expected that some homebrew would flow at his mid-July fundraiser at the nearby Flying Bison brewpub.

The newly elected Mayor Hickenlooper has been an active community leader involved in various development projects, and was a leader in the fight to keep the "Mile High Stadium" name (it is now called Invesco Field at Mile High).

And who knows, with brewers in public office, maybe public water fountains will soon bring the people Pilsener, pale ale and porter.



The Seven-Pack (Yes, Seven!)

Can't get enough from a six-pack? No problem. Utah-based Park City Brewing Company has solved your problem by adding another bottle to the mix. The brew-

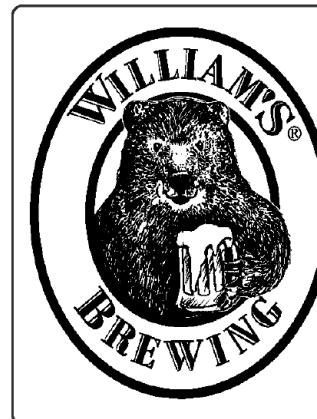
ery says it has tested the product line for a couple of months with very high consumer enthusiasm and positive feedback and is now ready for a rollout in its Utah and Montana distribution area.

From our recollection, the six-pack was created by brewers 50 or 60 years ago after market research showed that housewives buying beer at the supermarket could heft the sixer but not much more. Maybe they've figured out that women these days are stronger than they once were.

World Wide Stout to Flow in the U.K.

When the *London Observer* recently wrote that America's newest drinking phenomenon is crossing the Atlantic, it is doubtful that the readers, or anyone else for that matter, would assume the sensation in question

actually begins between two grain fields in rural Delaware. However, at the center of this trans-Atlantic drinking movement is the "fastest-growing, most creative brewery in the world," Dogfish Head Craft Brewery, located in Milton, Del., at 6 Cannery Village Center.



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Beginning in September, select pubs and supermarkets throughout the United Kingdom will begin selling Dogfish Head's award-winning World Wide Stout. The dark, rich and roasty stout is brewed using six different yeast strains and is aged for up seven months before being unleashed on the world. World Wide Stout, with its unique aging and robust 23-percent alcohol by volume, has more in common with a fine port than with a cheap can of mass-market beer.

When Dogfish Head Craft Brewery first opened in 1995, it was the smallest brewery in the country. Today, eight years after the fact, Dogfish Head has quickly become the nation's fastest growing beer and spirit enterprise.

"If we can sustain this momentum, Dogfish Head will attain the distinction of being

the world's leading beer producer by 2029!" 33-year old president and founder Sam Calagione proudly points out. "I guess then we'll be the 'King of Beers'."

Stone Brewing Named "Best Brewer"

For the third time running, Stone Brewing of San Diego County has been named "Best North American Brewer" by beer enthusiasts from 65 countries through the Web site RateBeer.com.

"RateBeer Best is the world's largest beer competition," reports Joe Tucker, the site's chief administrator. "More than 22,000 different beers were tasted from over 3,400 brewers in 120 different countries, amassing more than 188,000 ratings from beer drinkers the world over, all tabulated to

determine the results. Our Web site offers no opinion of its own; instead it tabulates the opinions of our members and we simply report the results twice yearly."

Because of the amateur status of RateBeer members, there are no minced words in the reviews. Even a casual visit to the site quickly reveals that beers are rated frankly and freely.

"Of course we're thrilled with the recognition," says Greg Koch, Stone Brewing's CEO. "If you read the ratings on their Web site, it's clear that the vast majority of the RateBeer members really understand the incredible depth and complexity that fine beers are capable of presenting to the palate. It's interesting that while raters' opinions often differ quite a bit, when you read multiple ratings for a given beer the threads of consistency between the ratings become quite clear."

Michigan Breweries Score 91 Medals



Twenty-two Michigan breweries from all over the state entered the Michigan Beer Guide Brewers Cup, a first-of-its kind competition established to evaluate and recognize the quality of products brewed in Michigan using homebrew-based judging standards.

Exactly 100 beers were entered and blind judging was performed by qualified judges from the Beer Judge Certification Program, a nationwide organization of beer judges dedicated to beer quality and recognizing sensory analysis judging skills.

"Being the first time, we had no idea how many breweries would participate," said event organizer Rex Halfpenny. "You have to admire those who entered because they had no idea how their beers were going to publicly stack up against each other."

Each beer was evaluated by four judges on a scale of 1 to 50, with 50 being a perfect beer. Beers that scored above average (30-34) were awarded bronze medals. Beers that scored excellent (35-39) were awarded sil-

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ver medals and beers that scored outstanding (over 40) were awarded gold medals. The three most experienced judges evaluated all the gold medal beers to select the Best of Show beer, which was Rochester Mills Beer Company's Sacrificial Stout.

The beers in the competition ranged from light ales to raspberry eisbock, said Halfpenny. "We even had two lambics, a cider and a mead." Given that variety, it was somewhat surprising that an Irish dry stout at 5 percent abv would take Best of Show.

The awards ceremony for the competition featured a tasting of the 40 top-scoring beers and announcement of the Best of Show winner. "The event ran flawlessly," said Halfpenny, who is already making plans for next year's competition.

White Hawk Select IPA Named 'Best Microbrew in San Francisco'

Mendocino Brewing Company earned top honors in the annual "Best of San Francisco" readers' choice awards published by SF Weekly in May.

"San Francisco is known for great international food styles and pairing premium wine and beer with meals," said Mark L. Anderson, sales and marketing manager. SF Weekly's article suggested that foods such as rich pork dishes, salmon, meaty fish and especially spicier varieties of Asian food match well with White Hawk. Sounds delicious!

White Hawk Select IPA is available in six-packs in California, Washington, Oregon, Colorado and Hawaii at selected retailers. Further distribution is planned for Nevada, Arizona and Texas.

Iron Hill To Open New Location

In November, Iron Hill Brewery & Restaurant, the popular group of Pennsylvania and Delaware brewpubs known for creative cuisine and award-winning beers, will open a fifth location in North Wales, Penn. The new location will feature an open kitchen with a wood-burning oven, an exposed microbrewery and a bustling bar area.

"We pride ourselves with creating a comfortable, casual, worry- and hurry-free dining experience for our customers. These simple standards are the key to our success," says director of marketing Kevin Finn.



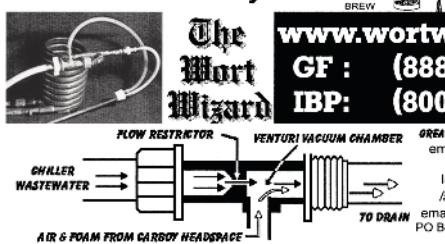
have rich mahogany paneling, corrugated copper walls, gray slate floors and black wrought iron accents.

Iron Hill's beers have been awarded top honors at the nation's most prestigious beer festivals, including nine medals at the Great American Beer Festival in Denver for the Pig Iron Porter (bronze 2002), Belgian Tripel (bronze 2002), Wee Heavy (bronze 2001, bronze 1998), Lodestone Lager (gold 1997, bronze 2000), Maibock (gold 1999, bronze 2000) and Vienna (bronze 1999). Iron Hill has also won medals at the Real Ale Festival and the World Beer Cup.

The highly successful restaurants, named after a historic Revolutionary War landmark in Delaware, have been recognized in many publications for outstanding beers, cuisine, service and décor.

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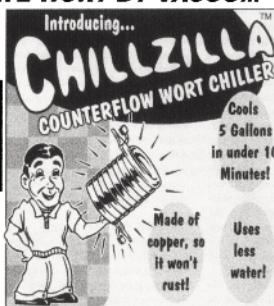


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Last Drop (from page 80)

breakfast brewpub owned and operated by Jeff and Deborah Donaghue. Jeff was a founding member and past president of the MHBA. After a light lunch and of course a few of Jeff's delicious beers it was a relatively short trip to New Glarus and a tour of the brewery. Most of us bought something to take home since New Glarus is not distributed outside of Wisconsin.

On the bus again we settled in to watch a movie for the last leg of the trip. "The Big Lebowski" was chosen first. While we watched the movie, Kris went through the scoresheets and recorded the scores on his laptop computer. As he stood up to announce the winner it was unanimously decided to wait until we reached Illinois. Just before we reached Beloit it started to rain heavily. This would last until we got to Chicago and on into the pub crawl.

South of Beloit we saw the Illinois state line, and it was time for the awards to be given in the first sanctioned three-state, traveling homebrew competition. The prizes were wooden bottles, handmade by a passenger's brother. The trophy for People's Choice was a bowling pin with a statue on it that Kris had gotten from who knows where. The People's Choice turned out to be the mead that got lost in the back of the bus—a raspberry ginger mead. Some of you may have sampled it on club night at the NHC.

The AHA conference was fabulous. My hat's off to the organizers. I got to judge at what was apparently the center of the homebrewing universe. It was good to put faces to names I have seen in this publication and other places. All the beer was good; most of it was wonderful. The food was plentiful and delicious. The Minnesota Home Brewers Association won the "Big Al" trophy, a Cornelius keg with bullet holes in it, for best theme at club night. All in all, it was an experience I won't likely forget. This was my first AHA conference, but it definitely won't be my last.

As for the bus trip, I've said it before and I'll say it again: "What mead?"

Paul Johnsen has been brewing since he got a beer kit from his wife for Christmas eight years ago. These days, he's an all-grain brewer who also enjoys hunting, camping and volunteering for youth programs.

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The Beer-Good Bus Tour Homebrew Competition

The sunrise lit the Minneapolis skyline as we finished loading the Cornelius kegs on the chartered bus. Not bad, 5:40 a.m.—only 10 minutes behind scheduled departure time. The passengers boarding the bus included members of Minnesota Home Brewers Association, Saint Paul Home Brewers and Prairie Homebrewing Companions. All of us had been looking forward to this trip for quite a while. The waiting was over. Now, on to Chicago and the National Homebrewers Conference (NHC).

I had never been to an NHC before and I was more of a participant than planner for this trip. The MHBA had decided on a bowling theme for club night. Bowling shirts were designed with our logo incorporated into them, and stereotypical (and some not) bowling names were chosen. Some of the names were Chet, Trixie, Beatrice, Yarr and my favorite, Oomtirgg—Only One More Then I Really Gotta Get Going. (I can relate to that.)

The organizers planned several activities for our bus trip. Before departure, numbers were drawn on one of the front tires with chalk, with one number for each passenger. We each chipped in a dollar and picked a number. At the next stop we would see which number landed closest to the indicator on the side of the bus; the person with that number would win the \$26. This was repeated for each stop until we reached our destination. To speed the trip, we had several movies with bowling themes that we could watch on the three televisions that hung from the ceiling of the bus.

The most anticipated event on the Beer-Good Bus Tour was the homebrew competition. We believe it to be the first AHA-sanctioned traveling beer competition. It started in Minnesota and ended in Illinois. The entries had to be in 2-liter plastic bottles because bus company rules did not allow glass in the passenger compartment.



Kneeling left to right: Marc Donnelly, Kris England, Paul Johnsen, John Longballa, Chris Hadden, Matt Peterson, Janis Sines, Kerry Kulowski. **Standing left to right, first row:** Evan Johnsen, Susan Ruud, Kathy Stock, Karl Gunderson, Jonathan Crist, Steve Piatz, Beth Williams, Ray Taylor. **Second row:** Curt Stock, Eric Swanson, Matt Klein, Al Boyce, Jason Kalenborn, Mike Moranz, Bruce McGregor, Paul Dienhart and Carl Johnson.

Out of 26 passengers (the judges) there were 21 entries, seven of which were IPAs. All entries had been registered and numbered by the organizer prior to departure.

mead was poured. After about 30 minutes a voice from the front of the bus yelled, "Where is that mead?" The reply from the back of the bus was, "What mead?" Appar-

We believe it to be the first AHA-sanctioned traveling beer competition. It started in Minnesota and ended in Illinois.

The first entry was opened and distributed at 6:45 a.m. just east of St. Paul. To initiate the judging of each category, a style guideline was read for the category while the entry was poured, followed by 10 minutes of evaluation. It wasn't long before we reached Wisconsin. At one point a particularly tasty

ently someone liked it so much they were unwilling to part with the rest of the bottle. By about 10 o'clock all entries had been tasted and scoresheets collected.

At 10:30 a.m. we pulled into Mineral Point, Wis. to have lunch at Brewery Creek, a bed and (continued on page 78)



Association of Brewers Pub Discount Program for American Homebrewers Association Members

PARTICIPATING PUBS

Just show your AHA card to your server at the pubs below and save money on BEER, FOOD and/or MERCHANDISE!

ARIZONA

Bandersnatch Brewpub
Tempe

Chicago Pizza/BJ's Restaurant
Bar & Brewery
Chandler

Rock Bottom Restaurants
Glendale, Phoenix Ahwatukee,
Phoenix Desert Ridge, Scottsdale

CALIFORNIA

Chicago Pizza/BJ's Restaurant
Bar & Brewery
Arcadia, Balboa, Belmont Shore, Brea, Burbank,
Cupertino, Huntington Beach (2 locations), Irvine,
Laguna Beach,
La Jolla, La Mesa, Oxnard, Seal Beach, Valencia,
West Covina, Westlake Village, Westwood,
Woodland Hills

Oggi's Pizza & Brewing Co.
San Diego (Mission Valley, Caramel Mountain
Ranch, Del Mar) Encinitas, Escondido, Huntington
Beach, Mission Viejo, Santa Clarita, Vista

Rock Bottom Restaurants
Irvine, La Jolla, Long Beach,
San Jose, San Diego

Santa Barbara Brewing Co.
Santa Barbara

Stone Brewing Co.
San Marcos

COLORADO

Backcountry Brewery & Restaraunt
Frisco

Chicago Pizza/BJ's Restaurant
Bar & Brewery

Flying Dog Brewery
Denver

Hops Restaurant, Bar & Brewery
Aurora, Colorado Springs,
Denver, Golden, Littleton,
Lone Tree, North Glenn

Glenwood Canyon Brewing Co.
Glenwood Springs

Great Divide Brewing Co.
Denver

Ironworks Brewery & Pub
Lakewood

Odell Brewing Co.
Fort Collins

Oskar Blues
Lyons

Phantom Canyon
Colorado Springs

Pumphouse Brewery & Restaurant
Longmont

Redfish Brewpub
Boulder

Redstone Meadery
Boulder

Rock Bottom Restaurants
(includes Walnut Brewery
and ChopHouse & Brewery)
Boulder, Denver (3 locations), Westminster

Rockies Brewpub
Boulder

Rockyard Brewing Co.
Castle Rock

Wynkoop Brewing Co.
Denver

CONNECTICUT

Hops Restaurant, Bar & Brewery
Manchester, Newington, Waterbury

DELAWARE

Iron Hill Brewery and Restaurant
Newark

FLORIDA

Hops Restaurant, Bar & Brewery
Altamonte Springs, Boynton Beach, Bradenton,
Brandon, Clearwater,
Coral Springs, Daytona Beach,
Ft Lauderdale, Ft. Myers, Gainesville, Jacksonville,
Lakeland, Miami, Naples, Ocala, Orange Park,
Orlando (2 locations), Palm Harbor, Pembroke
Pines, Plantation, Pompano Beach, Port Richey,
Sanford, St.Petersburg, Stuart, Tampa (3 locations),
West Palm Beach, Winter Park

The Snug Pub at the Dunedin Brewery
Dunedin

GEORGIA

Hops Restaurant, Bar & Brewery
Alpharetta, Douglasville, Duluth (2 locations),
Kennesaw

HAWAII

Kona Brewing Co.
Kailua-Kona

ILLINOIS

Elmwood Brewing Co.
Elmwood

Flossmoor Station Restaurant & Brewery
Flossmoor

INDIANA

Buffalo Wild Wings
Indianapolis

KENTUCKY

Rock Bottom Restaurants
Chicago, Warrenville
Mickey Finn's Brewery
Libertyville
Piece Brewery
Chicago

Upland Brewing Co.
Bloomington

Court Avenue Brewing Co.
Des Moines
Raccoon River Brewing Co.
Des Moines
Rock Bottom Restaurants
Des Moines

Louisiana

Hops Restaurant, Bar & Brewery
Lafayette

MARYLAND

Hops Restaurant, Bar & Brewery
Owings Mills

MASSACHUSETTS

Rock Bottom Restaurants
Boston, Braintree, Cambridge
Watch City Brewing Co.
Waltham

MICHIGAN

Arbor Brewing Co.
Ann Arbor

PENNSYLVANIA

Barley Creek Brewing Co.
Tannersville

For the most
up-to-date pub list, visit
[www.beertown.org!](http://www.beertown.org)

PENNSYLVANIA

Iron Hill Brewery and Restaurant
West Chester, Media

MINNESOTA

Hops Restaurant, Bar & Brewery
Eden Prairie, Maple Grove

MISSISSIPPI

Hops Restaurant, Bar & Brewery
Jackson

MISSOURI

75th Street Brewery
Kansas City

NEBRASKA

Thunderhead Brewing
Kearney
Upstream Brewing
Omaha

NEW HAMPSHIRE

The Portsmouth Brewery
Portsmouth

NEW MEXICO

Blue Corn Cafe & Brewery
Albuquerque
Il Vicino Brewing Co.
Albuquerque

NEW YORK

CH Evans Brewing Co. at the
Albany Pump Station
Albany

INDIANA

Ellicottville Brewing Co.
Ellicottville

NEW YORK

Lake Placid Pub & Brewery
Lake Placid

NEW YORK

Lake Placid Craft Brewing Co.
Plattsburgh

NEW YORK

Southampton Publick House
Southampton

NORTH CAROLINA

TEXAS

Hops Restaurant, Bar & Brewery
Charlotte, Huntersville, Matthews, Pineville

OHIO

Hops Restaurant, Bar & Brewery
Beaver Creek, Columbus (2 locations), Maumee

OHIO

Rock Bottom Restaurants
(includes ChopHouse & Brewery)
Cincinnati, Cleveland (2 locations)

OKLAHOMA

Willoughby Brewing Co.
Willoughby

OREGON

Chicago Pizza/BJ's Restaurant
Bar & Brewery
Portland (3 locations), Eugene

OREGON

Laurelwood Public House & Brewery
Portland

PENNSYLVANIA

Pelican Pub and Brewery
Pacific City

PENNSYLVANIA

Port Halling Brewing Co.
Gresham

PENNSYLVANIA

Rock Bottom Restaurants
Portland

PENNSYLVANIA

Rogue Ales Public House
(includes Brewer's on the Bay)
Newport (2 locations), Portland

PENNSYLVANIA

Rock Bottom Restaurants
West Chester, Media

PENNSYLVANIA

Rock Bottom Restaurants
King of Prussia, Pittsburgh

RODE ISLAND

Hops Restaurant, Bar & Brewery
Warwick

SOUTH CAROLINA

Hops Restaurant, Bar & Brewery
Columbia (2 locations),
N. Charleston, Spartanburg

TENNESSEE

Boscos Brewing Co.
Germantown, Memphis, Nashville

TENNESSEE

Hops Restaurant, Bar & Brewery
Chattanooga, Knoxville, Memphis

TEXAS

Rocky River Brewing Co.
Sevierville

UTAH

Moab Brewery
Moab

UTAH

Squatter's Pub Brewery
Salt Lake City

UTAH

Uinta Brewing Co.

UTAH

Salt Lake City

VIRGINIA

Hops Restaurant, Bar & Brewery
Alexandria, Richmond (2 locations)

TEXAS

Rock Bottom Restaurants
Arlington

TEXAS

Williamsburg Brewing Co.
Williamsburg

WASHINGTON

Rock Bottom Restaurants
Bellevue, Seattle

WASHINGTON

Rogue Ales Public House
(includes Issaquah Brew House)
Issaquah

WASHINGTON D.C.

Rock Bottom Restaurants
(includes ChopHouse & Brewery)

WISCONSIN

Angelic Brewing Co.
Madison

WISCONSIN

Northwoods Brewpub
Au Clair

WISCONSIN

Rock Bottom Restaurants
Milwaukee

WYOMING

Snake River Brewery and Restaurant
Jackson Hole, Lander

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A Division of the Association of Brewers
Celebrating Twenty-five Years



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