

FOR THE HOMEBREWER & BEER LOVER

Volume 28 * No. 1 | January/February 2005

zymurgy

■ The Journal of the American Homebrewers Association ■

*A love affair
with Belgians*



In this issue:

**12 BEERS
YOU
CAN
BREW**

Beer
Lover's
Paradise

Think
and brew
like a Belgian

New book
explores
Farmhouse
Ales

A Publication of
the Brewers Association

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PLUS: Try this at home—cheesemaking

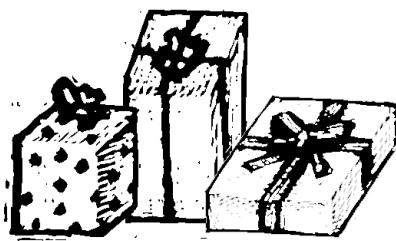
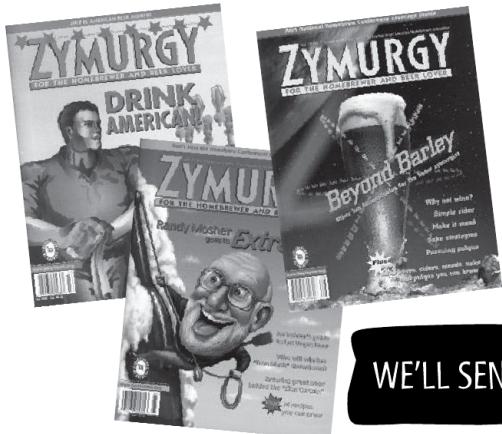
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Friday, June 17

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Saturday, June 18

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Time for a Change

Change is good. Changing seasons, changing locations, changing looks. But change should never be done just for change's sake. And it should never be done impulsively.

That is why the magazine you hold in your hands now is the product of more than 18 months of ideas, meetings, discussions, tweaking, pulling, pinching and even wadding up and starting over.

Unlike the reality show makeovers that seem to have become all the rage on TV, the goal behind redesigning **Zymurgy** was to make a better magazine, not just put a prettier face on the same old thing—even though the same old thing was pretty darn good.

Times have changed. Homebrewing has changed. The people doing the homebrewing have changed. So it was time for the magazine to change.

When I first got into this hobby in 1987, my "local" brewpub was 23 miles away and usually had four beers on tap. I drove 24 miles to buy homebrewing supplies. If I wanted to try a new style, I had to find a recipe in a book or an example on the (warm) shelf of the local Liquor Barn and try to replicate it.

Today, there is a brewpub within a stone's throw of my office with 12 of its own beers on tap. I have a choice of two homebrew retail shops within 12 miles and countless others on the Internet. I can Google (a verb that I would have thought meant something entirely different in 1987) any beer style and find dozens of recipes online. I can map out a recipe, tweak it using ProMash and order the ingredients all before I even put on my pants in the morning.

The point is life is faster; there is more information out there, more choices and more resources. And a magazine for home-

brewers and beer lovers has to reflect that.

People are busier these days. You may not have time for a lot of long features. If we want your attention, we'd better make our point quickly and concisely—and colorfully. We have to acknowledge that we are not your only source for information, but we can help point you in the right direction for more.

We have spent hours, days, weeks and months deciding which parts of the "old" magazine to keep and which parts to replace. We devoted still more time to deciding what to add. The redesign was the work of a team spearheaded by art director Kelli McPhail along with graphics/production director Stephanie Johnson and Randy Mosher, a member of the AHA Advisory Board. Other team members included AHA director Paul Gatza, executive editor Ray Daniels, associate editor Jill Redding, sales and marketing director Cindy Jones, project coordinator Gary Glass and myself.

Once we had the "skeleton" built and knew what was going into the magazine, it was time for McPhail, Johnson, Mosher and the outside design firm of Hanna Design to come up with a look that fit the new magazine. Many tests and trials, debates and retoolings later, the result is in your hands.

I won't bore you here with a recitation of all of the new features and a play-by-play of what is inside. Instead, I'll just hand you the keys. Take 'er for a spin and let us know how she performs for you.

Maybe there is still some tweaking to be done. That's another great thing about change... it is ongoing.

Cheers,
Jim Parker
Editor-in-chief

zymurgy

Journal of the American Homebrewers Association®

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The Brewers Association Mission Statement

To make quality beer and brewing knowledge accessible to all.

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>> GET THERE!

Spirit of Belgium

If you act quickly, there may be a chance you can still get a ticket to this three-day celebration of all things Belgium, January 14-16 in Washington D.C.

Brewers United for Real Potables (BURP) last put on a Spirit of Belgium in 2001 and it sold out early, so don't delay.

The festival features the widest selection of Belgian beers and Belgian-inspired beers you will find under one roof in the United States. It also features expert speakers, a Belgian banquet and a home-brew competition.

All events will be held at the Sheraton National Hotel in Arlington, Va. Registration is \$190. For more information and to see if registration is still available, go to the Spirit of Belgium Web site at www.burp.org/events/sob/2005/index.html.



Toronado Barleywine Festival

If you're too late, or can't make it to Washington D.C. for the Spirit of Belgium, you may want to head west to the Toronado Barleywine Festival, making its annual appearance at the Toronado pub, 547 Haight Street in San Francisco. Barleywine festivals have become a popular mid-winter event and the Toronado is the Big Daddy of them all, running a full week from February 12-19.

Toronado publican David "Big Daddy" Keene usually gathers more than 40 barleywines and strong ales from breweries near and far.

There is no admission fee and beers are available by the sample or by the glass.

For more information, see the Toronado Web site at www.toronado.com or call 415-863-2276.

January 8

Big Beers, Belgians & Barleywines Festival, Eagle, CO
Contact: Laura Lodge, Phone: 970-949-0600, Fax: 970-476-6976, E-mail: BigBeersFestival@hotmail.com Web: www.BigBeersFestival.com.

January 14-15

Great Alaska Beer & Barley Wine Festival, Egen Center, Anchorage, AK Phone: 907-562-9911, Fax: 907-562-9889, E-mail: showpros@alaska.net Web: www.auro-reproductions.net/beer_n_barley.html Fee: \$30

January 29

Atlanta Cask Ale Tasting, Atlanta, GA Host: Sweetwater Brewing Company
Web: www.classiccitybrew.com/acat.html.

For a complete listing of beer festivals and events, see www.beertown.org/craftbrewing/events.asp.

February 11-12

FAB Fest, Margaret Place Park, Miami, FL Contact: Melissa Frantz, Phone: 305-754-5886, Fax: 305-759-5883, E-mail: frantzassociates@earthlink.net, Web: www.fabfest.com

February 16-22

2nd Annual Beerapalooza, San Francisco, CA Sponsored by Celebrator Beer News and local breweries. Phone: 510-538-2739, Web: www.celebrator.com.

February 18

Strong Ale Festival, San Francisco, CA Sponsored by Thirsty Bear Brewing Co. Phone: 415-974-0905.

BREW NEWS: AOB, BAA Merge

The Association of Brewers (which includes the American Homebrewers Association) and the Brewers Association of America have reached an agreement in principle to merge the two organizations.

The resulting organization, to be known as the Brewers Association, will operate out of the Association of Brewers' Boulder, Colo. office and continue all of the programs and services of both groups. It is set to begin operations January 1, 2005. The parties also envision establishing a legislative affairs office in the Washington D.C. area.

An interim board of directors will steer the new group through its first year of amending the existing AOB bylaws, establishing dues structures and establishing a committee system for the association's work. After that, a 13- to 15-member board of directors will be elected by the various memberships of the organization. Eleven seats will be held by professional brewers (seven packaging brewers and four brewpub brewers) elected by the membership. There will be up to two at-large directors elected by the membership. The American Homebrewers Association Board of Advisers, which is elected by AHA members, will select two members to sit on the board.

More information is available on www.beertown.org.

GREAT GADGET

WHAT'S NEW FROM BLICHHMANN

Blichmann Engineering has released its new lineup of brewing products.

Fermenator™ improvements include additional capacity (7-, 14.5- and 27-gallon models), easy-to-clean three-piece ball valves, and a pressure capable lid sealing system that allows you to pump your finished beer under CO₂ pressure. The new folding handles make the Fermenator™ the smallest profile fermenter on the market—easily fitting into a refrigerator for lagering.

The new stainless steel Therminator™ wort chiller will chill 10 gallons in five minutes.

The patented ThruMometer™ inline thermometer is a fast, accurate liquid crystal thermometer that allows you to dial in the exact wort temperature you want.

The BrewMometer™ bi-metal thermometer uses a patent-pending dial face tailored to the brewing process. Whether you're an extract or all-grain brewer, the BrewMometer™ will help you fine-tune your brewing skills. Offered in a 1/2" NPT model and a high quality patent-pending weldless model.

Need ball valves? Blichmann Engineering stainless steel three-piece ball valves are top quality and can easily be disassembled for a thorough cleaning or seal replacement.

For details on these products, check out www.BlichmannEngineering.com.

If you are a homebrew manufacturer, distributor or retailer and have a Great Gadget to share, send details to jim@aob.org or P.O. Box 1069, Gresham, OR 97030.



BREW NEWS: Coopers Aids Hurricane Victims

Coopers Brew Products is doing its part to help Florida homebrewing and wine-making retailers weather their recent spate of hurricanes. The Coopers Brewery of Adelaide, Australia, donated 36 cases of Coopers homebrewing products (retail value over U.S. \$2,500) to Florida retailers this month.

The company also set up a fund in conjunction with the three full-service wholesalers—Crosby & Baker, LD Carlson and Steinbart Wholesale—to allow U.S. retailers to participate in an inventory credit program.

"Physically, our colleagues in Florida made it through relatively OK," according to Mark Henry, CEO of Coopers. "However, customers have been pretty scarce for the last five weeks; there is not a lot of beer and wine making going on in Florida right now. By providing these businesses with some low- or no-cost inventory, we are trying to do our part to see them through until business returns to normal."

There are 12 retail storefront homebrew and winemaking shops in Florida.

For more information on The Coopers Brewery Florida Fund, contact Mark Henry, Coopers Brew Products, mark@cascadia-brew.com or 530-346-7359.

THE LIST

10 Wacky Beer Laws

- > Anyone under the age of 21 who takes out household trash containing even a single empty alcohol beverage container can be charged with illegal possession of alcohol in Missouri.
- > No alcohol beverages can be displayed within five feet of a cash register of any store in California that sells both alcohol and motor fuel.
- > The entire *Encyclopedia Britannica* is banned in Texas because it contains a recipe for making beer that can be used at home.
- > Texas state law prohibits taking more than three sips of beer at a time while standing.
- > Nebraska state law prohibits bars from selling beer unless they are simultaneously brewing a kettle of soup.
- > State law of North Dakota prohibits serving beer and pretzels at the same time in any bar or restaurant.
- > It's illegal to sit on any street curb in St. Louis, Mo., and drink beer from a bucket.
- > Ohio state law prohibits getting a fish drunk.
- > In Fairbanks, Alaska, it's illegal to feed a moose any alcohol beverage.
- > After Michael O'Neil opened O'Neil's Saloon, he was promptly informed by the Iowa state liquor authority that he was breaking the law by using the word "saloon." He complied by changing the "S" into a "B," thus making it O'Neil's Baloon.

Source: Alcohol Problems and Solutions, www2.potsdam.edu/alcohol/info/index.html

BEER POLL

Where do you most often drink beer?

- > Home
- > Bar, pub or restaurant
- > Friend's house

Send your answers to P.O. Box 1069 Gresham, OR 97030 or e-mail to jim@aob.org. Results will appear in the next issue of Zymurgy.

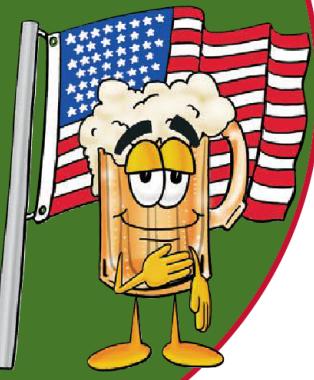
BEER POLL BEST BEERS IN AMERICA

It's time once again for Zymurgy's Best Commercial Beers in America Survey.

As homebrewers and beer lovers, you have the most educated and adventurous palates on the planet. So, for the third year, we are asking you, "Who brews the best beers in the land?"

The rules are simple: just write down a list of the 20 best beers available in the U.S. market and send your list to jim@aob.org or P.O. Box 1069, Gresham, OR 97030 by March 15. You can vote for both domestic and imported beers, but the beers have to be available in the United States.

We will tabulate the results and present them, along with clone recipes for some of the top beers, in the July/August issue of *Zymurgy*.



>>YOU GOTTA DRINK THIS

Widmer Snow Plow Milk Stout



Pours dark with a tawny head and a sweet, roasty nose. The beer is slightly sweet from the addition of milk sugar and has a roasty sweet finish. Snow Plow Milk Stout is a slightly tweaked version of Widmer's Collaborator Milk Stout. The Collaborator project between the Oregon Brew Crew and the Widmer Brothers started as a way to revive or brew styles of beers that were not available commercially. This Collaborator beer has twice won a gold medal at the Great American Beer Festival.

Proceeds from the sale of the beer benefit the Bob McCracken Scholarship at Oregon State University, which gives annual awards to students in their fermentation science program.

Available in Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon and Washington and through Liquid Solutions, www.liquidsolutions.ws.

Submitted by Brian Butenschoen, Portland, Ore.

Have you had a beer lately that you just have to tell the world about? Jot down your impressions in 150 words or fewer and send them to "You Gotta Drink This!" P.O. Box 1069 Gresham, OR 97030 or e-mail to jim@aob.org.

>> BEER JOKE

For Whom the Cuckoo Farts

A guy comes home from the bar at 3 a.m. after a few too many beers. He walks in the door just in time to hear the cuckoo clock cuckoo three times. Quickly coming up with a plan, he cuckoos nine more times, hoping his wife will think it is midnight, the hour he promised to be home. Pleased with himself, he heads up to bed.



The next day, his wife asks what time he got home, and he replies, "Midnight, just like I said."

"OK. But honey, I think we need a new cuckoo clock."

"Why is that?" he asks.

"Last night when it cuckoed midnight, it cuckoed three times, said 'Damn!' cuckoed four more times, farted, cuckoed three times, cleared its throat, cuckoed two more times and then started giggling."

>> BEER QUOTE

"Late last night the Coors Brewing Co. announced plans to merge with the Molson Co. However, this morning when Coors woke up and took a good look at Molson, suddenly Molson didn't look so good."

—Conan O'Brien

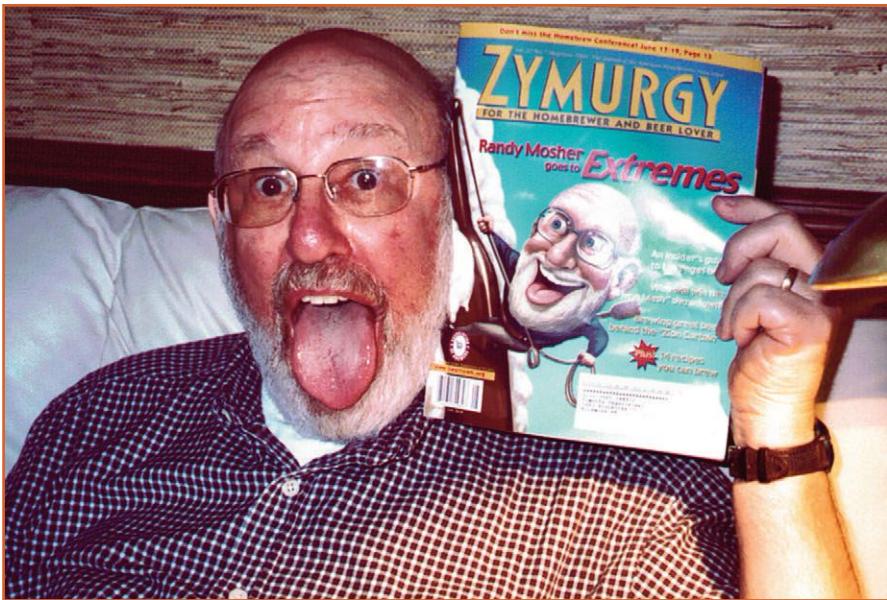
>> BEER QUOTE

"Another time, at Hillsboro, N.C., I put beer in my thermos. After a few laps, the beer, jostled by the bumpy ride, foamed and the top came off the jug. The inside of the car looked like a washing machine. I had to explain that one to Bill France."

—Buck Baker, NASCAR driver

by Our Readers

Separated at Birth?



Dear *Zymurgy*,

The two-and-a-half-year-old twins across the street saw their dad's magazine (May/June 2004), got all excited and yelled, "There's Murray! There's Murray!"

Does my husband have a twin out there that I don't know about? I've known him 45 years! Who is that on the cover and what can you tell me about him?

Sheila Rosenberg
Richmond, Va.

Well Sheila,

It appears Murray does have a doppelganger out there who goes by the name of Randy Mosher. He is a well-respected authority on beer and brewing, and the author of several beer books, most recently Radical Brewing, which is why he graced the cover of our May/June issue. Randy lives in the Chicago, Ill. area. And, from the looks of it, he and Murray not only share common features, but a wicked sense of humor.

—Ed.

A Commercial Success

Dear *Zymurgy*,

I just wanted to say that I absolutely love the new Commercial Calibration feature in *Zymurgy*. What a fan-freaking-tastic idea. As a new judge, calibration is one of the things I need to develop the most. And I really needed some before the exam! Whoever thought of putting that feature in the magazine should get a medal.

I also love For Geeks Only. Sometimes, life just isn't technical enough for us...

Francisco Jones
Kankakee, Ill.
AHA, BJCP

Dear Francisco,

AHA director Paul Gatzka gets the kudos for coming up with the Commercial Calibration idea. We're glad you are enjoying it. If you'd like to give us your two-cents worth on commercial beers that you love, check out "You've Got to Drink This" on page 6.

—Ed.

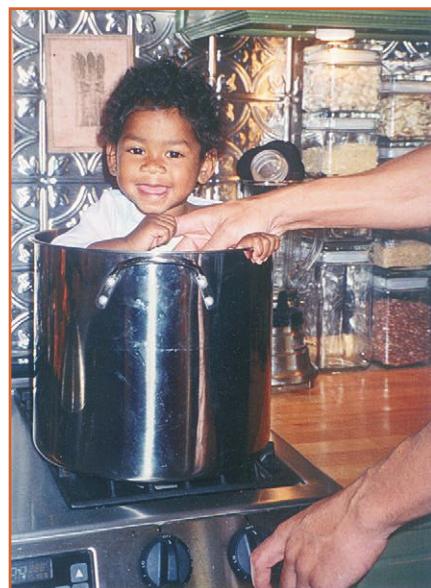
Frankenbeer

Dear *Zymurgy*,

Regarding "Swedish Brewer Makes GM Beer" (September/October 2004), it might be useful to highlight why so many people are concerned about genetically modified (GM) food and why that skepticism about GM food should also extend to Kent Persson's beer produced in Sweden with "a touch of genetically engineered corn."

The European Union requires the labeling of GM food; I believe such labeling should also be required in the United States. If GM food is no big deal as Monsanto and others want us to believe, then labeling should be a non-issue.

People all over the world are concerned about GM food for the following reasons: 1. Dependence upon GM seed will exacerbate the trend away from family and subsistence farming to corporate farming, where the sellers of the seed will have inordinate economic



A true India Pale Ale being brewed with the help of our daughter Saberi. (from Kyle and Heather Vermeer)

Hobby Beverage Equipment

The small batch equipment company



Fermenters

The MiniBrew (left) & Affordable Conical Two brands - 5 Sizes - 6.5 to 40 gallons Cost less than SS - Move the dead yeast not the beer - No more hard to clean carboys - Use any sanitizer - No secondary transfers - Heavy wall construction - A major medical company uses our plastic - Why not you?



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clout over farmers and those who eat the produce the farmers sell. It is difficult, if not impossible, for a nation to have food security if the food supply is dependent upon an increasingly monopolistic/oligopolistic industry structure. 2. The problem with food scarcity has been one related to poverty and politics, not production capacity. Therefore, we do not need GM food in order to feed the world. In fact, GM crops are more dependent upon pesticides than non-GM crops. 3. It is uncertain what will happen if GM organisms are released into the environment and cross-pollinate with other plants. The people promoting GM foods have an economic incentive to provide us false assurances about the safety of GM food (remember the nuclear industry).

Most homebrewers, meadmakers, wine-makers, cidermakers and other makers of crafted beverages (whether on a homebrew or commercial basis) attempt to find the best ingredients and take pride in the fruits of their labors. Adding the uncertainty of GM crops into this process flies in the face of this trend and should definitely be discouraged—both in the marketplace and the halls of Congress.

Jeri D. Shepherd
(occasional homebrewer/meadmaker)

Well-put Jeri,
I'm sure this isn't the last we'll hear about GM ingredients in beer. No matter where you stand on the issue of GM foods, brewers of all sizes deserve and need to know about the ingredients they are using, and should pass that information on to the people drinking their beer.
—Ed.

Correction

The recipe in the November/December *Zymurgy* "Great Hop Experiment" story contains an error. The hopping schedule should be a 0.5-ounce addition at 60 minutes, a 0.5-ounce addition at 30 minutes and a 0.5-ounce addition at flameoff. The final gravity should be 1.010.

Send your letters to Dear *Zymurgy*, PO Box 1069, Gresham, OR 97030 or e-mail Jim@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, Brewers Association, PO Box 1679, Boulder CO 80306 or e-mail it to kelli@aob.org.

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from the first glass to the last.

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by Ray Daniels



A Dream in Every Carboy

During my career as a homebrewer, I've won international honors, earned the adoration of millions who quaff my brews, been knighted for service to European royalty and elevated to superstar status by hordes of clamoring media.

And it all happened solely within the confines of my carboy.

Homebrew is a wonderful vehicle for dreams. While I've been lucky enough to make beer into a living as well as a life, the day-to-day work of beer doesn't diminish the dream potential of homebrewing. With each grist we grind, with each yeast slurry we pitch, with each bottle we cap, we pack our dreams into every batch we brew.

Some of your dreams soar out of reach—the kind you might not even share with your wife or best friend or anonymous blog. You recognize the odds against Christina Aguilera somehow tasting your beer, falling in love with both it and you and showering you with millions for a brewery in addition to your own private and live music videos upon demand. So you decide that maybe you should keep that one to yourself.

But other dreams fall into the world of the possible, the attainable and even the humble. Surely we each dream of our own commercial brewery at some time. Many have gone before us on that trail. Those homebrewers who compete dream of gold and silver, of best-of-show honors and homebrewer-of-the-year titles. And with every batch, we must all dream that this one will taste exactly the way we want it to. That this one will wow our friends and satisfy our palates in a way that no commercial beer ever could.



It has been a year now since I wrote on these pages, but homebrewing has never been far from my thoughts. Indeed, while Jim Parker has taken over the day-to-day editing of this magazine, I continue to be involved with writing, editing and publishing brewing literature and books. And I continue to dream.

My most vivid dream this past year has involved a farm—brewing at a farm, that is. We have just published a book titled *Farmhouse Ales* by Phil Markowski, the talented brewer from Southampton Publick House in New York. His book delves into the wonders of saison and bière de garde, two ales that emerged from the agricultural roots and polyglot history of Belgium and northern France. Reading about brewing generally motivates me to brew, and this book provides plenty of inspiration. In this case, it kick-started a full-blown farmhouse brewery fantasy.

Like many of you, my consumable creativity long ago grew beyond the realm of beer. I do a bit of cheesemaking, whip up a mean

curry, fire up the smoker with some regularity, mess with a bit of mustard, contemplate pickling and tamale making and, well, you get the picture. Combine this with a love for the outdoors and a good bit of exposure to farmland courtesy of long bike rides in recent years and you have the makings of a potent fantasy.

In my current vision, the fields buzz with sunflowers, the barn houses both brewery and restaurant. Another building supports cheesemaking (with milk from our own herds) and overnight visitors find rustic charm in a wonderful guesthouse built around a charming stone fireplace. This bucolic vision includes visits by well-known brewers like Markowski, Randy Mosher and Tomme Arthur as artists-in-residence, with wonderful little festivals that celebrate the flavor and diversity of American beer.

I'll consult Phil's new book and brew a bière de garde to fuel this dream. As I do, I can feel the warm sun on my shoulders and see the blue sky above. I imagine all



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the friends who would visit—and all the new friends to be made over good beer and good food. And when I've actually got the beer, and I'm sharing it with my fellow brewers, foody friends or corporate types as thirsty for a good dream as a good beer, I'll bring out the dream again. And who knows, maybe someday that fantasy will become a reality somewhere.

As I said before, homebrew is a great vehicle for dreams. Not a batch goes by that I don't add another dream to my collection of sudsy fantasies. And as I write this, I wonder what dreams you have packed

inside your carboys. What marvels of brewing have you whipped up to embody those dreams? Maybe someone should have a category for "dream beers" in a competition sometime soon. The entry would include a beer and a description of the fantasy that goes with it. The winner is the beer that does the best job of evoking the imagery of the fantasy. I don't know what the beers would be like, but I'll bet it would be a lot of fun to judge!

Ray Daniels is executive editor of Zymurgy and director of the Craft Beer Marketing Program.



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by Professor Surfeit



Shake the Spell

Editor's note: The Professor is out of the country serving as an American beer missionary, so he wasn't able to dip into the mailbag. He did send back a postcard with all of the previous mastheads for Zymurgy, just to remind us of how far



we have come. Below is a classic Professor answer from Summer 1994 that seems timely and timeless.

Dear Professor Surfeit,
I had successfully brewed about 25 batches of lager and ale when my co-worker and fellow brewer, Don, came to me for advice. He said his fermentations were very slow and at times would not even begin for several days after pitching the yeast. I asked him about some of the more obvious causes of the problem and could not come up with an answer. I had never had a problem of that sort. But ever since then, I have had one fermentation ordeal after another, and Don's brew has been turning out fine. Is it possible that he has placed some sort of brewer's curse on me? Does it have anything to do with the fact that he has a mustache and I do not?

My latest batch has been fermenting for about 25 days and has finally slowed down. It is a lager and the temperature is about 58° F (14.5° C). My prior brews completed fermentation in about seven days, and I have not changed my techniques. Some of my other "slow" brews have had off-flavors—one was a gusher and one tasted fine. Is this yeast autolysis and if so, what causes it? By the way, these brews are mostly extract brews with some grain added.

Sue Bolander
Rothsay, Minn.

Dear Sue,
You can borrow my mustache any old time. But the "beered" I keep.

The most likely reasons for your problems are either: 1) You didn't aerate your cooled wort enough or 2) your brew got contaminated with wild yeast.

Now it's my guess if you have a fermentation that starts out really slowly (assuming you've added enough healthy yeast) and keeps chugging along at a snail's pace, then you haven't aerated enough. But if you've got a reasonably good primary fermentation but it just lingers and lingers, then perhaps you've got wild yeast that continues to ferment away stuff that would not normally be fermented by beer yeast. This is what I suspect if you've got gushers and the other anomalies you speak of.

So my dear, listen closely and you shall hear the midnight ride of Yeasty Fear. Gotta keep it clean and shake it like you've never shaken before.

Gotta go,
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@aob.org.



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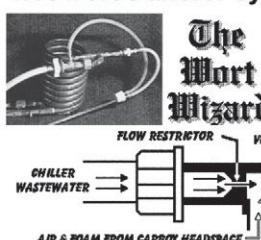
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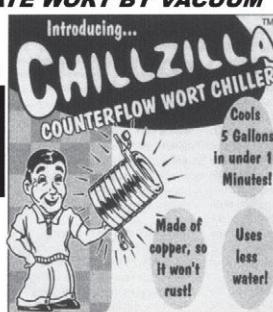


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by Zymurgy staff

Irish Red Ale

Want to invest some time brewing a nice house beer, one you can serve to a wide range of friends with a diverse portfolio of palates and still maintain a healthy interest in it yourself?

I recommend putting your time and money into an IRA. Irish red ale, that is.

Irish red ale is one of the new styles added to the Beer Judge Certification Program's Beer Style Guidelines for 2004 and the category for the American Homebrewers Association's Club Only Competition for January/February.

It is also a tempting crowd pleaser with a long, somewhat murky history. Irish brewing history dates back at least 5,000 years, but when most people think of Irish beer they think black—as in stout. However, stout was a relative newcomer to the Irish brewing world, having been adopted from Britain.

Brewing folklore tells us the earliest Irish ales were red in color and most likely brewed in monasteries. But there is scant written record to back up the claim. Perhaps we should just take it on faith.

Michael Jackson wrote, "Why Irish ales tend towards a reddish colour, I am not sure. Malting techniques do vary from one country to another, and that may have had something to do with it in the past."

Modern-day Irish red ale brewers use a touch of roasted barley to give their beer color and complexity. Crystal malts—which also were not available to brewers 5,000 years ago—are another tool modern brewers can employ when brewing an IRA.

Another characteristic carried over from the days of old Irish brewing is a distinct

lack of hop character. Ireland's cool, wet climate was not well suited to hop growing and the English levied a tariff on hops imported to Ireland.

So Irish red ales tend to be malt-centric ales, usually in the 4- to 6-percent alcohol by volume range, making them a great choice for everyday drinking beers.

References

- BJCP Style guidelines, www.bjcp.org
- Jackson, Michael. *Michael Jackson's Beer Companion*. Running Press, Philadelphia, PA: 1997.
- Sparrow, Jeff. "A Quaffable History of the IRA," *Zymurgy*, (January/February 2004)



Irish Red Ale

Ingredients

for 5 U.S. gallons (19 liters)



I can	Coopers Real Ale
I can	Coopers Light Malt Extract
0.25 lb	(0.11 kg) roasted barley
0.25 oz	(7 g) East Kent Goldings,
	4.75% alpha acid (15 min)
	Wyeast 1084 Irish Ale Yeast or White Labs WLP004
	Irish Stout Yeast
0.75 cup	(180 ml measure) corn sugar for bottling

Original Specific Gravity: 1.051

Final Specific Gravity: 1.012

IBUs: 29.4

ABV: 5.0%

Directions

Steep roasted barley in 1 gallon of 150° F water for 20 minutes. Remove grains and sparge with 1 gallon of 170° F water. Stir in extract and bring to a boil. Boil 45 minutes then add 0.25 ounce East Kent Goldings. Boil 15 minutes more then pour into fermenter with enough cold water to make 5 gallons. When temperature is below 68° F, pitch yeast and aerate well. Ferment at 68° F for a week or until fermentation is complete then rack to secondary. After a week or two, prime with corn sugar and bottle.

BELGIUM



SMALL IN STATURE

BIG IN BEER

BY MICHAEL HENIFF

Taverne Bruxelloise

SALLE À L'ÉTAGE

ZAAL OP 1^e VERDIEP

Brusselse Taverne





Belgium is a country small in size but massive in gastronomical and historical terms. Divided into two regions, the northern Dutch-speaking Flemish and southern French-speaking Wallonians still strive to maintain separate cultures in this tiny land. Located on the North Sea, nestled between the wine country of France and the lager country of Germany, Belgium takes on a personality of its own with little influence from either neighbor on its unique ales.

Belgium is home to more than 100 brewers producing as many as 400 different beers, quite striking for a country about 150 miles across at its widest points (just larger than Maryland or New Jersey). These 400 beers fall loosely into a few dozen styles with seemingly more outliers than those that fit squarely into a category. The beers range from the crisp, dry Pils to the sour lambics and Flanders reds to the full-bodied, alcoholic Trappists. Beer cafés are plentiful, usually at every street corner and always numerous at each town square. Belgian beers are almost always found in bottles and served in their own glass with the beer or brewery logo.

To go along with the beer, Belgium is home to a wide range of wonderful dishes often featuring choice cuts of lean meats accompanied by the best French fries (pomme frites) on the planet. Beef, veal, rabbit and duck are the specialties, not to mention the moules (mussels). Their chocolates are world-renowned and widely available throughout the country.

BELGIUM, THE BATTLEFIELD

Belgium has quite a history as well, having been a site for many major wars. Waterloo, just south of Brussels, was the city where Napoleon Bonaparte was captured at the end of the War of 1812. Belgium was hit hard with much of its country used as a battlefield during World War I. The town of Ieper in West Flanders is home to an American soldier cemetery and a World War I museum. The trend continued during World War II. This time the Ardennes, in southern Wallonia, was the scene during the Battle of the Bulge, where U.S. General MacAuliffe answered the demand for surrender with "Nuts!" leading to an eventual defeat of the Germans. A number of museums, cemeteries and memorials exist in the Ardennes region.

Belgian architecture and art adorn many of the cities. Gothic and Baroque cathedrals and bell towers hundreds of years old are scattered throughout many of the cities, not to mention an occasional castle. Works of art from Pieter Paul Rubens and Anthony van Dyck can be viewed at many of the cathedrals or art museums as well as at a former home of Rubens in Antwerp that is adorned with many of his works.

STANDARD FARE—BEERS FOUND THROUGHOUT BELGIUM

Despite the large number of beers and the small size of the country, many of the 400 beers are regional specialties that may require a little hunting. Belgian



Pilseners (Stella Artois, Maes, Primus and Jupiler) have little character different than their European counterparts and unfortunately are the most popular beers in Belgium.

Strong goldens are found widely throughout Belgium. Mimicking the famous Duvel brewed by Moortgat, the lightly colored but deceptively strong ales are widely replicated with some interpretations reaching the strength of 12-percent alcohol by volume. Darker versions have a seemingly effortless drinkability to differentiate themselves from dubbels or the darker Trappists. Goldens, similar in character to the strong golden but in more of a session beer format at 5- to 6-percent alcohol, are widely available as well.

The abbey styles of dubbels and tripels are found throughout Flanders and Wallonia but each abbey usually only distributes locally. The beers of the six Belgian Trappist breweries (Chimay, Westmalle, Orval, Rochefort, Westvleteren and Achel) are generally available in each brewery's region and at the better beer cafés.

BEFORE YOU GO

Since Belgium is a small, easy-to-access country, I would suggest picking one city as a base and planning day trips from there. This will free you up from making a number of hotel reservations and traveling with your luggage all over the country. For a base, Brussels or Antwerp is the best choice. The entire country is very easily accessed via Brussels. Antwerp is a very good base for access to Brussels and the Flanders region (including Ghent and Brugge) but not as much for southern Belgium.



Be sure to plan your itinerary in advance. Determine which cities you want to visit and which sights you want to see. Be sure to arrange any brewery tour before you go, as they are usually made by appointment only. A good travel book is indispensable. *CAMRA's Good Beer Guide to Belgium and Holland* is an absolute necessity.

BRUSSELS

Brussels, situated between Wallonia and Flanders, has French as the main language. It is the largest city in Belgium and is quite international in culture as well. Centered on its town square, the Grand Place is a great display of Gothic architecture that gives some of the old-town feel back to this busy city. The town hall (Hotel de Ville) and the house of the king (Maison du Roi) face each other across the square with the ever-appropriate Brewers' Guild (with a small brewing museum) at one of the corners. The Royal Palace and a number of magnificent cathedrals are nearby. Also, Brussels is home to NATO and the capital of the European Union.



LAMBICS OF THE SENNE

Brussels is part of a region around the Senne River called Pajottenland, more often referred to as the Senne Valley. This region is known for its lambic brewing and the airborne flora that is used to provide wild yeast and bacteria for lambic fermentations. When lambics are brewed, the wort is cooled and left overnight for the flora to provide the microbes for fermentation. The fermentation is long, often

two to three years, with stages in oak casks where more bacteria and yeast strains make their home.

Traditional lambics are known for their sour lactic acid character with other regional flavors often likened to barnyard, leather and sometimes even horse blanket. While there are a few traditional lambic breweries, there are many more lambic breweries with products with a gentler acidity, milder flavors and often fermented with fruits.

OTHER NON-BEER SITES IN BRUSSELS

Hotel de Ville: Take in the great architecture and history in the Grand Place. The Hotel de Ville (French for "town hall") is a wonderful Gothic building with a modest, off-centered bell tower. Very decorated with art and tapestries, it is hard to imagine that the building is still used for the city council. It can be visited when the council is not in session.

Mannekin Pis: This small statue is quite a tourist attraction. Mannekin Pis is a tiny statue of a boy urinating and is often dressed in one of his 600 costumes, depending on the season, holiday or worldwide events.

OTHER NON-BEER SITES IN ANTWERP

Cathedral of Our Lady (Onze-Lieve-Vrouwekathedraal): This massive Gothic cathedral was built during a 170-year period starting in 1351. Its single spire, standing over 400 feet tall, towers over the old town (interestingly, the second spire was never finished). The inside of the massive cathedral acts as a showpiece for some of the best art and architecture in Belgium when religious services are not being held. Tours are self-guided with an occasional English-speaking guided tour offered.

Straight lambic is the most traditional lambic, strongly sour and unblended. Gueuze is blended for consistency with the older straight lambic blended with new lambic for a slightly milder but still quite sour character. Faro is sweetened lambic, but is often difficult to find. Fruit makes its way into many lambics: kriek (sour cherry), framboise (raspberry), peche (peach) and cassis (black currant) are the most typical fruit lambics. One brewer, De Troch, produces lambics under the Chapeau brand that uses atypical fruits such as bananas, pineapples and strawberries.

CANTILLON

Brasserie Cantillon is a "must visit" when in Brussels. Cantillon is a "working museum" creating a large line of very traditional (and quite expensive) lambics. They are very sour, even when compared to most other lambics, but nowhere else in the

GETTING THERE

TRAVELING TO BELGIUM

PLANES: The Brussels and Amsterdam airports provide the easiest access to the country. Only a few airlines fly into Brussels but most major airlines fly into Amsterdam from their major hubs. When flying into Amsterdam, you will need to take a train to reach Antwerp or Brussels. The train is conveniently located underneath the airport (you must buy your ticket before boarding the train) and has stops at both Antwerp and Brussels. I always suggest taking the train versus catching a connecting flight to Brussels since you will most likely arrive earlier via train and there is even more certainty that you will arrive with your luggage as well.

WHERE TO STAY

BRUSSELS: ARLEQUIN, Rue de la Fourche 17-19. Arlequin is a decent hotel that is moderately priced and just a few blocks off the Grande Place. A double costs 80-125 Euros (\$101-\$159) depending on the day of the week and time of the year and includes a buffet breakfast. The street directly behind the hotel, Rue des Bouchers, has a lot of good restaurants with local cuisine.

ANTWERP: TOURIST HOTEL, Pelikanstraat 20-22. This is a mediocre hotel but is moderately priced and is located in the most travel friendly location of the city, the diamond district. It is just across the street from Centraal Station (within walking distance with luggage!) and is close to the underground rail to get you toward the town center at Groenplaats. A double costs 75-85 Euros (\$95-\$101) and includes breakfast.

ANTWERP: IBIS HOTEL, Meistraat 39. The Ibis is a decent chain hotel but will require a cab or about a half-mile walk from Centraal Station. It is located a few blocks from the shopping district along the Meir and an underground rail stop. It is within a few blocks of the opera, Rubenshuis, and the Kulminator. A double costs 85-95 Euros (\$101-\$120).

TRAVEL WITHIN BELGIUM

TRAINS: Trains are the standard of mass transportation between cities in Belgium. You can get to virtually any city or region via the train system. Be sure to check the SNCB website (www.b-rail.be/) for schedules and stops (and especially do so before you arrive in Belgium; pre-printed train schedules have only a limited availability). There are also various systems of trams and underground trains to get you through the inter-cities of Brussels, Antwerp and Ghent. There are high speed (but also higher cost) trains to get you from Brussels to Germany, Paris or London as well.

AUTOMOBILES: Driving inside cities in Belgium is more difficult than in many of the major cities in the United States. Unfamiliar street signs and lights, heavy aggressive traffic and very long, hard-to-read and constantly changing street names are some of the driving hazards in Belgium. But highway travel is a breeze compared to city traffic. If you decide to rent a car, be sure to reserve one with an automatic transmission since many rental cars in Belgium have a standard transmission. Taxicabs are readily available in most cities and conveniently located at taxi stands. In many small towns, though, taxicabs are not available, even at train stations.

world will you find a brewery that offers a view into history on how beer was produced and how it tasted. The straight unblended lambic, Bruocsella 1900, is definitely one to try in order to understand what an aged lambic tastes like before the blending process. The Rosé de Gambrinus is produced with both raspberries and cherries and is one of their more famous offerings. Be sure to look for other rare specialties when you visit the brewery, especially their grape lambics.

While good beer cafés are easy to find, two beer bars stand out among the rest. Bier Circus has a good selection of harder-to-find regional specialties from Wallonia. Of course, a number of lambics are on the beer menu as well. Mort Subite (translated as "Sudden Death") is the café that inspired the name of the Mort Subite line of lambics. The beer selection is modest but an authentic rare gueuze is offered under the Mort Subite brand.

ANTWERP

Antwerp is the second largest city in Belgium and the largest city in the Flanders region. Its single skyscraper shares the skyline with a massive Gothic cathedral spire dating as far back as 1351. The old town is centered around two points, Groenplaats and Grote Markt, and is just off the River Schelde. Many well-restored buildings line the small cobblestone streets of the old town, giving a glimpse of old Antwerp. A number of quaint shops, beer cafés and restaurants accompany the historical architecture. Almost every site of interest can be reached by foot from the old town.

BELGIAN PALE ALES

Antwerp is famous for its Belgian pale ale, DeKoninck. Belgian pale ale is similar in strength to its English counterpart but more balanced toward malt with just a touch of character from the Belgian yeast. DeKoninck is served in a bolleke (translated literally as "ball"), a wide glass similar to a goblet. Locally, a number of beers from DeKoninck can be found including a blonde, a seasonal winter beer and the stronger version of the pale ale, Cuveé. The brewery is located on the south side of town but still inside the Ring and not too far from the Berchem station.



Antwerp is home to many good beer cafés, most of them conveniently located in the old town. The Kulminator may be the best beer bar in the world. It will take hours to page through the beer menu with plenty of vintage beers (some are not even available by the breweries anymore!), all of the Trappists beers (even the hard to find Westvleteren) and a few international selections. Some of the beers can be viewed in storage near the back of the bar. Be aware that it is closed on Sundays and opens very late on Mondays. To get to the hard-to-find Kulminator from Groenplaats, go south on Kammensstraat and take a left after a few blocks onto Vleminckveld.

Paters Vaetje (translated as "Priest's Cask") is my favorite place to hang out in Antwerp. The tiny two-story bar has a very friendly feel with a great selection of beers. There are normally five to six beers on tap with another 100 in bottles including a good selection of seasonals. The beer café is located a few feet from the northwest corner of the cathedral with dozens of other cafés nearby.

BRUGES

Bruges, located in West Flanders, is a wonderful city from a historical sense. In many other cities in Belgium, the old towns are readily evident but New World constructions are scattered about as well, many due to necessity after bombings during World War II. But Bruges is a city that was unaffected by the World Wars and every bit of new construction is strictly built to look centuries old. Bruges is a city preserved in time from the 18th and 19th centuries.

In the center of Bruges is the Markt, with a magnificent Belfry (Belfort in Flemish)



that should be climbed by those able. Many magnificent guild houses line the Markt, which occasionally holds city markets in the square. Adjacent to the Markt is the Burg, smaller than the massive market square but still as historical and stately. Lining the Burg is the magnificent Gothic town hall (Stadhuis in Flemish) with a very impressive "Gothic Room" and a basilica that holds a cloth with the blood of Jesus Christ. Surrounding the city center and outside of the city, the canals are quite scenic. Canal tours are readily available during warm seasons.

SOUR BEERS OF FLANDERS

The Flanders region is known for its sour beers, the Flemish reds and browns. Although similar to lambics in acidity and tartness, the Flemish sour beers lack the barnyard character of the lambics. The Flemish sours have a strong malt backbone to balance the acidity that can vary from a hint of sourness to an almost mouth-puckering tartness. Occasional fruit versions of the styles, usually with raspberries, can be found as well.

For beer, dozens of cafés are spread throughout the city but Bruges Beertje is the best and has at least a dozen Flemish reds and browns on the menu. Look for browns such as Liefmans, Felix and Ichtegems and reds such as Rodenbach, Petrus, Bacchus and Duchesse de Bourgogne. Located just off the Markt, the "Bruges Bear" has around 200 beers including many Belgian standards as well as good selections from Wallonia. Brasserie Erasmus is another

café, located close to the Belfry, with a very good selection of more than 100 beers.

HAINAUT

The province of Hainaut, in Wallonia, is home to many tiny breweries producing a wide range of craft or artisanal styles of beers. Many of these craft beers can loosely fall into descriptions such as strong golden or tripel but they have seemingly been brewed to avoid such a designation.

SAISONS OF HAINAUT

A traditional type of beer found in Hainaut, rare even in Belgium, is the saison. Originating as a farmhouse staple to satisfy farm workers, examples of saisons vary widely from one another. French for "season," saisons were a way to keep the farm workers busy in the winter while preserving grain from the autumn harvest. A gentle acidity and a good dose of hops and sometimes spices make them easy to drink and especially enjoyable during a day of hard work in the fields in the summer.

The tiny town of Pipaix is home to Brasserie Vapeur, a brewing museum of sorts, which is possibly the only completely steam-driven brewery remaining in the world. Vapeur was built in 1785 by a large landowner to brew saisons for his farm workers. The front end of the brewery has not been modernized since the early 1900s and steam is still used to drive the grain mill, mash mixer and grain feeder. Their Saison de Pipaix, based on an original recipe from 1785, is quite spicy when young with ginger, pepper and orange peel apparent.



Mike's Belgian Strong Dark

All-Grain Recipe

Ingredients

for 5 U.S. gallons (19 liters)

12.5 lb	(5.67 kg) Pilsener malt
2.25 lb	(1.02 kg) Vienna malt
1.0 lb	(0.45 kg) Munich malt
1.0 lb	(0.45 kg) CaraMunich malt
1.0 lb	(0.45 kg) Belgian Candi Sugar
0.75 lb	(0.34 kg) CaraPils malt
0.1 oz	(28 g) Carafa II or Chocolate malt
1.3 oz	(37g) pellet Hallertauer Tradition hops, 7.1% alpha acid (60 min)
0.5 oz	(14 g) pellet Hallertauer Hershbrucker hops, 4.4% alpha acid (10 min)
0.5 oz	(14 g) pellet Hallertauer Hershbrucker hops, 4.4% alpha acid (3 min)

Original Gravity: 1.095

Final Gravity: 1.020

IBUs: 40

Directions

Mash crushed grains in 4.5 gallons of water at 152° F (66.6° C) for 90 minutes. Run off while sparging 4 gallons. Collect 6 gallons of wort and boil for 60 to 75 minutes, adding the hops per schedule. Cool to 68° F (20° C), whirlpool and drain wort from trub. Pitch the slurry from a half-gallon starter of White Labs WLP550 Belgian Ale or Wyeast 1388 Belgian Strong Ale and ferment at 68° F (20° C) for 10 days.

A few miles away in Tourpes, Brasserie Dupont produces a number of saisons out of the farmhouse along with cheese, bread and milk. Like Vapeur, the front end of their brewery dates back to early in the last century but the fermentation technology is quite new. Dupont's saisons range from the very drinkable Vieille Provision to the strong, complex seasonal saison Avec les bon Voeux.

Pipaix is easily accessed via train from Brussels from the station at Lueze-en-Hainut and is within a moderate walking distance (about two miles). Tourpes can be accessed via the same station but is outside of walking distance. A bus (86A) runs sporadically during the week and goes by the Brasserie Dupont if you politely ask the bus driver.

REFERENCES

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Webb, Tim. CAMRA's *The Good Beer Guide to Belgium and Holland*. Storey Books: 1999.

Mike Heniff has been homebrewing in Houston, Texas for seven years and is a member of the Foam Rangers Homebrew Club. He has won more than 35 medals for brewing Belgian style ales and has spent more than a cumulative month working, traveling and drinking beer in Belgium.

Mike's Belgian Saison

All-Grain Recipe

Ingredients

for 5 U.S. gallons (19 liters)

12.5 lb	(5.67 kg) Pilsener malt
1.5 lb	(0.68 kg) Vienna malt
1.0 lb	(0.45 kg) CaraPils malt
1.3 oz	(37 g) pellet German Perle hops, 8.0% alpha acid (60 min)
0.7 oz	(20 g) pellet Czech Saaz hops, 3.5% alpha acid (10 min)
0.5 oz	(14 g) pellet Czech Saaz hops, 3.5% alpha acid (0 min)

Original Gravity: 1.070

Final Gravity: 1.016

IBUs: 45

Directions

Mash crushed grains in 4.5 gallons of water at 153° F (67° C) for 90 minutes. Run off while sparging 4 gallons. Collect 6 gallons of wort and just very lightly boil, being careful not to darken the wort. Boil for 60 to 75 minutes and add the hops per schedule. Cool to 80° F (27° C), whirlpool and drain wort from trub. Pitch the slurry from a half-gallon starter of White Labs WLP565 Belgian Saison or Wyeast 3724 Saison and ferment at 75° F (24° C) for 14 days.



American Homebrewers Association's 27th Annual

2005 National HOMEBREW Competition

ENTRY FORM

Send this filled-out form with your entry to your regional site. Entries submitted to the wrong site will be disqualified. Check the Locator Map in March/April 2005 issue of *Zymurgy* or online at www.beertown.org. Questions? Contact Gary Glass, NHC Director, at gary@aob.org or call (888) 822-6273 or (303) 447-0816 x121. Please read the instructions in PART II of the rules and regulations found on www.beertown.org.

Section A: Brewer Information

1. Name _____
 2. Additional Brewer(s) _____
 3. Address _____
 4. City _____ State/Province _____ Zip/Postal Code _____
 5. Country _____ Phone (H) (_____) _____ (W) (_____) _____
 6. E-mail _____
 7. Homebrew Club (Please spell out full name of the club. Do not abbreviate.) _____
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11. If you are a BJCP judge, please include your BJCP Number here _____



Section B: Entry Information

12. Name of Brew (optional) _____
13. Category and Subcategory (Print full names) _____
14. Category Number (I-29) _____
15. Subcategory Letter (a-e) _____
16. For Mead and Cider (check one): Dry Semi-Sweet Sweet
17. For Mead and Cider (check one): Sparkling Petillant (lightly sparkling) Still
18. For Mead (check one): Hydromel (light mead) Standard Mead Sack (Strong Mead)
19. SPECIAL INGREDIENTS:

If you have entered in any of the following categories 6d, 16e, 17f, 20, 21, 22b, 22c, 23, 25c, 26a, 26c, 27e, 28b, 28c, 28d, 29 refer to part II of the Rules and Regulations and the NHC Style Guidelines at www.beertown.org for instructions on filling out the spaces below. The judges will use this important information for evaluating entries in these categories. Leave these spaces blank if you have not entered the above categories. Entrants of Historical Beers are asked to provide the historical beer style and information on the style profile and history as an aid to judges.

Classic Style _____

Special Ingredient(s) _____

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Conjuring up the 'Black Magic' of Belgian beers

By Lew Bryson

Brewer Brandon Greenwood of Nodding Head brewpub in Philadelphia has won a number of Great American Beer Festival medals—including one in 2004 for his Berliner weisse—so he's no stranger to odd beer styles. But he doesn't like brewing Belgian beers.

"I do a Belgian," Greenwood said, noting his Abbey Normal. "I just don't see the point. The Belgians do it better, they're the best. Why redo that?"

Then he admitted the real problem. "There's a certain amount of black magic with Belgian styles. You brew it, you put it in the tank, and then you stand back and let it happen. I kind of have a hard time with that."

Belgian black magic. We've all tasted it, some love it, some don't get it. Some brewers are put off by it, but others have embraced it. American brewers and beer drinkers have turned to the wide variety of Belgian styles, and some places are specializing in that blend of yeasts, adjuncts, spices, processes and...black magic.

How did it happen that Belgium is such a malt Disneyland of beer styles, including some that are fossils of brewing's past? It's hardly a matter of isolation: Belgium has been a European invasion route for centuries, involuntarily hosting the Spanish, German, British and French armies, among others. Perhaps it is a stubborn reaction to those invasions that led the Belgians to cling tightly to their own peculiar customs.



Brewery Ommegang's Randy Thiel is an American brewer who works with Belgians every day (the brewery is owned by the Moortgat brewery, brewers of Duvel) and recently became a member of the Knighthood of the Brewers' Mashstaff, a Belgian order ruled by the Brewers' Guild. He thinks Belgium's diversity is a matter of where the country lies in Europe. "In one sense it is geographic," he said. "They take a little from the Germans—technology and know-how—and a little from the French—finesse from winemaking—and make it their own." They've been known to take a little from other sources as well: Brasserie Silly makes a delicious and well-known Scotch ale.



they do with, say, German or English brewers in that variations and experimentation are more widely accepted—and applauded—than they are in other countries, where style adherence is the law of the land."

Of course, it helps that beer drinkers in Belgium are a lot more accepting of those beers. "If you go to Brussels, to the cafes and restaurants, you'll see people of all ages drinking beers that would turn peoples' heads," Thiel relates. "I was in the Ardennes and saw 18-year-olds, parents and grandparents all drinking Orval. It brought tears to my eyes. It was near the Orval abbey, and they were supporting their local brew-

*Belgian black magic.
We've all tasted it, some love it,
some don't get it. Some brewers are
put off by it, but others have embraced it.*

New Belgium's Bryan Simpson thinks it might be a biological imperative. "If you think back historically to when everything was spontaneously fermented, it was the regional yeasts that imparted a sense of place in beer," he surmises. "Esters—floral, fruity or earthy tones manifested mostly in the olfactory—are a direct result of what indigenous yeasts are used, and they are often the distinctive characteristic in many a Belgian beer."

Whatever it is, it goes beyond simply having preserved a wide range of beer styles. Belgian brewing is about attitude, a different approach to formulation. Michael Jackson tells a story about talking to a German brewer and a Belgian brewer to illustrate this difference. He says to the German brewer, "Hans, your Pilsener is delicious, but...you know, it tastes the same as Fritz's down the road." And Hans responds, "Ja! That's how you make a Pilsener!"

Then Jackson speaks to the Belgian brewer. "Pierre, your golden ale is wonderful, but...you know, it tastes nothing like Jean-Luc's down the road." And Pierre responds, "No! This is my golden ale! Jean-Luc, he makes his golden ale!"

Belgian brewers have an open attitude about brewing that makes the whole country a "style-free" zone. Volker Stewart and his partners run The Brewer's Art in Baltimore, an all Belgian-style brewpub that's been very successful in the Charm City. "I think that there is a beer mentality in Belgium that shies away from styles *per se*," Stewart said, explaining one reason for the Belgium-centric brewing philosophy of Brewer's Art. "So many of the beers brewed there do not even fit into a neat style category. Belgian brewers are the most adventurous and anarchistic family of brewers among the Old World beer-producing countries. Belgian brewers have more in common with vintners than

ery. It just happens that their local brewery has a worldwide reputation."

Belgium Comes To America

Belgian beer's variety and hang-loose attitude appealed enough to a number of U.S. brewers to get them on the Belgian model. New Belgium founder Jeff Lebesch, an accomplished homebrewer, used a seminal bike ride through Belgium to guide him to that route. "Jeff was drawn to the complexity of Belgian beers," said Simpson. "The balance of hop to malt that you find in Fat Tire is quite different from, say, a West Coast pale ale. It's great to throw a lot of hops in beer, but it's maybe a little more technically challenging to create a balanced flavor profile that's intriguing yet pleasantly drinkable."

Rob Tod at Allagash Brewing in Maine went all Belgian, all the time. Why did he do it? "Number one, I love Belgian beers. That's the biggest reason. Second, there is

huge variety in the group of Belgian beers. They're also a challenge to brew. There are so many different styles to explore. Lastly, they're unique beers, and there were very few brewers doing them, so we saw an opportunity. We were the first brewery in New England to open up to brew Belgian beers. That's what we do."

Stewart echoed much of that when asked why Brewer's Art went Belgian. "All due respect to IPAs, porters and lagers, but that wasn't what I was into as far as what I thought my business should be making. Besides, all of these styles were already being made, and in a very good manner, here in Baltimore. The market did not need another IPA."

Market niche is always a good decision point on what kind of beer you make, but some breweries have Belgian-ness forced upon them. That's what happened when Belgian beer importer Vanberg & DeWulf (the husband and wife team of Don Feinberg and Wendy Littlefield) teamed up with three Belgian breweries to create Brewery Ommegang in Cooperstown, N.Y. There was one American brewery that was going to brew Belgian: Belgian ingredients, Belgian styles and—at the beginning—a Belgian brewer.

Thiel took over when Ommegang's Belgian brewer freaked out over the "wilderness" he found in Cooperstown, and has stayed through the brewery's takeover by Moortgat, one of the founding partners. "Before I got my feet wet in pro brewing, I was a homebrewer and dabbled in the best-known craft styles: British ales," Thiel recalls. "When I met Don and Wendy, they opened my eyes to Belgian beers. I came out of U.C. Davis thinking I knew everything about beer, and Don shook me up and said 'No, you don't know anything about beer!' Experiencing beer through the nose and the mouth and stomach, that's very important."

Feinberg had definite ideas about what the sometimes-generic term "Belgian beer" meant. "The purpose of this brewery was not to copy Belgian beers, it was to work within the styles," Feinberg had said in the early days "We will be truly a Belgian brewery when we invent our own

Dubble Trubbel (in the Ommegang zone)

All-Grain Recipe

Ingredients for 5 U.S. gallons (19 liters)

9.0 lb	(4.08 kg) Pilsener malt
1.0 lb	(0.45 kg) aromatic malt
1.0 lb	(0.45 kg) biscuit malt
1.5 lb	(0.9 kg) Munich malt
1.0 lb	(0.45 kg) CaraMunich malt
1.0 lb	(0.45 kg) Special B malt
1.0 oz	(28 g) roast barley
1.0 lb	(0.45 kg) Belgian candy sugar (dark)
2.0 oz	(56 g) Styrian Goldings hops, 5.2% alpha acid (60 min)
1.0 oz	(28 g) Saaz (3.7%) (15 min) Irish moss Wyeast 3787 Belgian Trappist yeast

Original Gravity: 1.070

Final Gravity: 1.018

Directions

Mash grains at 154° F (68° C) for one hour. Slowly raise temp to 170° F (77° C). Sparge. Add sugar, bring to boil, boil for 75 minutes adding hops as indicated. Add Irish moss at last 15 minutes of boil. Pitch yeast at 72° F (22° C). Rack to secondary when specific gravity reading is 1.036.

Breast Mauler Tripel

(similar to Weyerbacher Merry Monks Ale)

Ingredients for 5 U.S. gallons (19 liters)

13.5 lb	(6.12 kg) Pilsener malt
1.0 lb	(0.45 kg) aromatic malt
1.0 lb	(0.45 kg) Belgian candy sugar (clear)
0.5 lb	(0.23 kg) corn sugar
0.25 tsp	bitter orange peel
0.25 tsp	sweet orange peel
0.25 tsp	coriander
1.5 oz	(42 g) Styrian Goldings hops, 5.2% alpha acid (60 min)
0.5 oz	(14 g) Hallertau Hersbrucker, 4.5% alpha acid (30 min)
0.5 oz	(14 g) Saaz, 3.7% alpha acid (15 min) Irish moss Wyeast 3787 Belgian Trappist yeast

Directions

Mash grains at 152° F (66° C) for 90 minutes. Sparge with 168° F (75.5° C) water. Add sugars, bring to boil, boil for 90 minutes adding hops as indicated. Add Irish moss at last 15 minutes of boil. Add spices at last 10 minutes of boil. Cool, aerate, pitch large starter of yeast. Pitch yeast at 72° F (22° C). Rack to secondary when specific gravity reading is 1.050.

style. It's creativity that characterizes America. I have a real bugaboo about American homebrewers who think everything can be reduced to a formula. The great Belgian breweries are not formulaic, or even referential."

At Saint Sebastian Belgian Microbrewery in Spring Hill, Fla., they have gone one step further in creating an authentic Belgian experience. The brewpub is a sister company to the Sterkens Brewery in Belgium and its brewmaster, Len Sterkens is a ninth-generation brewmaster. Her family has been brewing since 1654. She brews on a brewery manufactured in Belgium by SBM.

The chef is a Belgian and produces such Belgian dishes as Belgian Stew, Chicken Reine and Belgian Pasta Fry.

What Does It Mean?

So what is Belgian about these beers, other than the geographical origin of the styles? "The common thread is the willingness to experiment and keep an open mind," said Simpson. "Belgian brewers tend to be a lot more experimental with funkier yeast strains, exotic spices like kaffir leaf and a dynamic use of fruit. I don't think today's brewers are satisfied with copying old styles—they want to tweak and hybridize and mutate. That's where the creativity comes in and I think that is really what makes a beer Belgian—the willingness to take risks and create something new."

"The yeast is a big part of it," offers Thiel. "If you want to talk about beer styles in different countries, they place different priorities on parts of the process. The Germans emphasize efficiency in the brewhouse and clean fermentation. The British are known for their finesse in using different malts; the maltiness in fresh British ales is astounding. America is becoming known as a hop-heavy country. The Belgians view fermentation and the work that the yeast does as the focus."

"You may not have a common thread through great Belgian beers as to the flavors that the yeast produces," he explained further, "but they do consider that the holy ground: where the yeast works. You can make Belgian ales if you have great control over your fermentation and you don't let them get hit up alongside the head with

hops. Anything with a unique appeal to it that is gastronomically complementary could be Belgian in style. Dogfish Head Raison d'Etre, for example, sits well, tastes good, goes well with food, is well-integrated and so it seems very Belgian to me."

Stewart agrees. "Yeast (and for some beers other microbiota) adds probably the most, across-the-board, that makes these beers what they are," he said. "However, flavor adjuncts are essential to certain styles (witbier, fruit lambic) and the process is totally essential to lambics and oud bruins. One should not forget that the Belgians also resort to maltings that are not used that often in other brewing traditions, and that these contribute to the flavor as well. The use of strength adjuncts [corn, sugar, etc.] is quite common, which is, of course, heresy to most craft brewers in this country."

Innovate all you like, but keep in mind that it doesn't always work. Victory Brewing in Downingtown, Pa. recently pulled the plug on a Belgian-type beer they'd been tweaking and playing with for a few years, their initial "V-Series" beer, the V-10. "V-10 is dead," owner-brewer Bill Covaleski admitted. "We had no luck with it." In a beer as complex as the V-10, too many variables can kill you: yeast, ingredients, fermentation regimens and even fermentation geometries.

Victory hasn't given up on Belgian styles because of that, though. Their V-12 remains as a twin-brewed-and-blended head-knocker, a classic Belgian technique. The real surprise, though, is the success of the 9-percent alcohol by volume Golden Monkey triple. "Golden Monkey being our second-biggest beer was a shocker," Covaleski said. "It's been in second place for about two years now behind the IPA. Prima Pils and the Monkey are neck and neck; Prima's more in the summer, but over the whole year Monkey's on top."

The Yeast of Your Concerns

Are there special steps you need to take with that special Belgian yeast? Yes and no, according to Dan Weirback at Weyerbacher Brewing in Easton, Pa. where he makes Merry Monks Ale, a triple. "We use a Belgian abbey yeast strain, no microflora," he said. "It's really just standard ale yeast, even though it produces more esters. If Merry

Monks weren't bottle-conditioned, it wouldn't even be an issue. But it is, so we're adding yeast and candy sugar in the bright tank. Now I've got beer and yeast in the tank, and yeast in the bottling line. So we have to do some extra sanitation. But if I were using *Brettanomyces* or other microflora, you better believe there's a lot more sanitation steps."

New Belgium, of course, does use *Brettanomyces*. "We use it in our La Folie and Biere de Mars," said Simpson. "It's a nice souring agent. For La Folie we age in oak barrels for one to three years. The oak creates a porous, oxygenated environment—just about the exact opposite of what a commercial brewer is looking for. But in our case, it creates something of a microbiological zoo that is fun to play with. We get consistency through blending barrels to create just the right amount of sour. Our brewmaster Peter Bouckaert, having come to us from Rodenbach, has a great deal of experience working with wood."

Thiel has a different attitude. "I don't know if we'll ever release a commercial example made with microflora," he said. "I have a healthy respect for bacteria and wild yeast, and by healthy respect I mean 'fear.' You have to dedicate the equipment to that type of beer production, like a brewpubber dedicating a set of lines and hoses to soda. There are very aggressive and known beer-spoiling organisms, and you have to keep them isolated."

Tod doesn't use fearsome yeasts at Allagash, but he does use finicky ones. "There are yeast strains that are more forgiving than ours," he admitted. "We have to treat it carefully and consistently: fermentation temperatures, storage, oxygen supply, pitching amounts...if we stray from our regular program in any of those elements, we won't get successful fermentation. We've figured out what our yeast does and doesn't like, through a school of hard knocks. If we treat it well, it performs well."

Feinberg talked lovingly of the least-known beer in Ommegang's portfolio, and revealed some surprising things about Belgian beer—surprising to Americans, that is. "Rare Vos is our proudest achievement," he said. "We knew it would be our hardest beer to make, because it's a beer

Belgian brewing is about attitude, a different approach to formulation.

with less alcohol and less complexity, but with a lot of character.

"We have been accused of dumbing down the beer," he said. "But to pull back the curtain of 'The Great Beer of Belgium,' the most popular beer style in Belgium is lager. Of the rest, the largest proportion is simply called pale ale. The most popular beer after World War II was Ginder Ale, an alternative to lager, sweeter, estery. It's more drinkable. The difference is that the Belgians, having overall a better palate than the British, don't like hops as much in their beer as they do the sweet esters and malt."

Belgian beer is not about huge alcohol levels, "out there" yeasts and microflora, or fruits and spices. It's about making good beer in ways that other brewing cultures and traditions do not. Simpson nailed it with this advice to anyone who would take up the Belgian mashfork. "Be creative, be fearless. Think new thoughts and don't be afraid to chase after them—and sometimes to fail in doing so." Not bad advice for life, really.

Lew Bryson lives in Pennsylvania and is managing editor of *Malt Advocate* magazine.

Pater Noster Strong (Close To Victory Golden Monkey)

Malt Extract Recipe

Ingredients for 5 U.S. gallons (19 liters)

6.6 lb	(3 kg) unhopped malt extract syrup
4.0 lb	(1.81 kg) light dry malt extract
1.0 lb	(0.45 kg) DeWolf Cosyns Pilsener malt
1.0 lb	(0.45 kg) DeWolf Cosyns Carapils malt
1.0 lb	(0.45 kg) flaked barley
1.0 lb	(0.45 kg) brown sugar
1.0 oz	(28 g) Tettnanger hops, 4.5% alpha acid (60 min)
0.5 oz	(14 g) Tettnanger hops, 4.5% alpha acid (30 min)
0.5 oz	(14 g) Saaz, 3.7% alpha acid (15 min)
2 tsp.	gypsum
	Irish moss
1.0 T.	bitter orange peel
0.5 T.	crushed coriander
	Wyeast 1762 Belgian Abbey II

Original Gravity: 1.094

Final Gravity: 1.022

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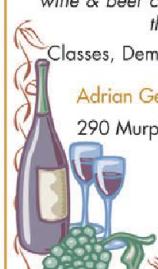


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BELGIAN-STYLE B



Belgian ales are among the world's most unusual and individual beers. Because of the diversity of flavors and styles, I turn to Belgian ales often when matching food and beer. But at \$8 to \$15 per 750-milliliter bottle, they can become an expensive habit. It's all the more reason to brew Belgian-style ales at home.

I've brewed about 125 batches of Belgian-style ales in the last five years and have discovered several techniques and processes that have helped me brew authentic tasting ales.

Don't Be a Slave to Style Guidelines

The number one rule of brewing Belgian-style ales is that there are no rules to brew by, only guidelines. They are about experimentation and freedom from style constraints. One of the real attractions of Belgian brewing is the complete freedom of recipe formulation.

Focus on the uniqueness of the beer rather than trying to pigeonhole it to a style. Don't look for the faults. Most Belgian ales are their own style and don't conform to BJCP guidelines. You will have to think the opposite of how most of us judge and evaluate beer.

Although they thrive on individuality, there are a couple of qualities that seem to carry across many Belgian beers. Most are yeast driven, with the malt and hop qualities playing supporting roles. This doesn't mean that you can't or shouldn't experiment with different malts and hops to influence the flavor profile, but you need to allow the flavors to come through.

The other common quality is dryness. Most of the beers don't have sweet finishes even though they may have high alcohol content. This impression of dryness isn't a result of hop bitterness or hop-malt balance; it's real dryness that comes from a low terminal gravity. If your Belgian strong ales are as sweet as your barley wines, you've missed the mark.

Ingredients

Obtain an authentic yeast strain that will give the complex aromatics and flavors associated with the style. There's a wide variety to choose from, so experiment away. Most can be used for several different styles so don't think that an abbey strain can only be used for doubles and triples.

BREWS: Tricks of the Trade



by Bill Schneller

White Labs and Wyeast are the dominant brands available in my area and I've used most of the Belgian yeasts in their catalogs with success. If you're not sure which one to choose, your local homebrew shop should be able to recommend one.

To brew high gravity styles that still have a low terminal gravity, you need lots of yeast. The best way to get enough yeast is to brew a normal gravity beer and then re-pitch the yeast. If you don't pitch enough yeast, the beer will be underattenuated and too sweet. Even if you make a starter (and you always should), it still may not be enough yeast to ferment out a big beer (like an abbey-style ale). Make a moderate ale (1.040 to 1.060) first to build yeast. It also provides something with moderate alcohol for your stash; a long night of big Belgians can make for a bad morning. I normally use a yeast

strain three times and follow a simple pattern. The first beer is 1.040 to 1.060. Next I do a little more, like 1.060 to 1.075 or so. Then I do a monster, like 1.080 to 1.100-plus. The other advantage of this is it gives you three different beers to evaluate a particular yeast strain.

Many Belgian yeast strains are very active fermenters, so give them a lot of room. I use 6.5-gallon plastic buckets as fermenters but still put a blow-off tube in because the head space is often too small for an active yeast strain. If your fermenter is too small, you may lose too much yeast (and beer).

Sugar is Not a Dirty Word

The best way to get a low terminal gravity is to add sugar to the boil. This can be a point of contention with homebrewers, many of whom pride themselves on adjunct-free beers. I understand this; I was one of those. But if you want to brew Belgian-style beers at home, you need to get over that. Sugar is essential to making a high gravity beer that's still dry and crisp.

Sugar choices abound, but I've settled on a few that work for me. Purists will insist



Sugar is essential to making a high gravity beer that's still dry and crisp.

on candy sugar, which is great, but I have a problem paying \$4 a pound for it. Sugar is 100 percent fermentable, so why pay a lot of money for something that's used only to produce alcohol and lighten the body? In light colored beers, I normally use corn sugar. It's cheap, 100 percent fermentable and dissolves easily.

I will confess that I do use dark candy sugar on occasion because it contributes a

subtle rumminess (think good quality dark rum), but I've made great dark strong ales with corn sugar. The amounts vary, but I normally use 0.5 to 1.5 pounds per 5 gallons. My award-winning Corn Tripel has 1.5 pounds of sugar in a 5-gallon batch.

All of those concerns about "cider" flavors are myths. (I'm sure I'll get contrary comments on this point, but I'm sticking to my guns.) If you have enough yeast and oxygen, you won't get cider flavors. One caveat: don't use sugar in a lower gravity beer. It has no place in a 1.050 beer. I only use it in beers over about 1.060 or 1.065.

Belgian-style ales are a great place to experiment with other adjuncts like corn, wheat and rye. Corn, that all-American adjunct, is great in Belgian-style ales because it keeps the color and body light. Throw a pound or two into your next triple. Throw some unmalted oats into your wit beer or saison. Malted or unmalted wheat adds acidity and snap. Make a five-grain farmhouse beer.

Spice It Up

Many Belgian ales are spiced, so I'd encourage you to experiment with spices, but to use a light hand. I've used coriander, orange peel, ginger root, licorice root, grains of paradise, fennel/anise seeds, lime leaves and cardamom successfully. Spices can add a unique quality, but don't use too many or too much. My rule of thumb is, "If you can taste it distinctly, it's too much."

Spices will blend in with time, but the real key is to make the tasters wonder what the flavor is, not to beat them over the head with it. With coriander, start with 1 to 2 tablespoons per 5 gallons. Always use whole fruit (not the seed), and always measure before you crush it. With orange peel start with a quarter- to half-ounce per 5 gallons. With ginger, start with about a 1- to 2-inch piece of whole root cut into coin-sized slices. I normally put spices in for the last 10 to 15 minutes of the boil.

As a general rule, avoid high alpha American hops like Cascade, Chinook and Centennial, which are too intense for most Belgian styles. I stick to noble hops (or their American derivatives) like

Oatmeal Pale Ale

Ingredients

for 5 U.S. gallons (19 liters)

9.0 lb	(4.09 kg) Pilsener malt
2.0 lb	(0.9 kg) Vienna malt
1.0 lb	(0.45 kg) flaked oats
0.75 lb	(340 g) corn sugar (added to kettle)
1.0 oz	(28 g) Hallertauer hops, 4.5% alpha acid, (60 min)
1.0 oz	(28 g) Saaz hops, 3.5 % alpha acid, (30 min)
0.5 oz	(14 g) Saaz hops, 3.5% alpha acid, (10 min)
	Wyeast Trappist High Gravity Yeast or White Labs Abbey Yeast

Original Gravity: 1.067

Target Gravity: 1.013

IBUs: 30 (approximate)



Spices can add a unique quality, but don't use or too many too much.

Hallertauer, Mt. Hood, Fuggles, Willamette, Golding, Saaz, Tettnanger, Perle and Northern Brewer. Don't get too heavy handed with the hops either. Remember, Belgian-style beers are yeast driven. A lot of the yeasts will give you the acidity and sharp flavors that you need to balance the malt sweetness.

Most Belgian-style beers don't have roasted or black malt flavors, so you need to be careful with darker malts like black patent and roasted barley. There are great Belgian crystal malts like Special B, Cara-Vienna and Cara-Munich that will give you the dark color without the roasted flavors. Dark malts and black malts are fine for adding color, but even 4 ounces of black malt in 5 gallons will leave a noticeable roastiness. If you use them for color, start with 1 to 2 ounces per 5 gallons.

You can also vary the flavor profile by using significant portions of Munich or Vienna malt. In fact, I've found that a grain bill mixed evenly among Pilsener, Vienna and Munich malts is a good blend to evaluate a new yeast strain. Munich allows you to add malt character to beers like doubles or bières de garde without giving the same degree of residual sweetness that crystal malts will. Vienna adds a beautiful orange hue to lighter beers as well as a rich toffee maltiness, again without the same degree of residual sweetness.

(continued on page 35)

Farmhouse Ale

Ingredients

for 5 U.S. gallons (19 liters)

6.0 lb	(2.7 kg) two-row malt
4.0 lb	(1.8 kg) Vienna malt
1.0 lb	(0.45 kg) wheat malt
1.0 lb	(0.45 kg) flaked oats
0.75 lb	(340 g) corn sugar (added to kettle)
1.0 oz	(28 g) Hallertauer hops, 4.7% alpha acid (60 min)
0.5 oz	(14 g) Hallertauer hops, 4.7% alpha acid (30 min)
0.5 oz	(14 g) Hallertauer hops, 4.7% alpha acid (10 min)
1.0 T.	coriander (cracked) (10 min)
0.5 oz	(14 g) dried bitter orange peel (10 min)
	White Labs Saison Yeast

Original Gravity: 1.068

Target Gravity: 1.012

IBUs: 25 (approximate)

Directions

Mash grains at 153° F (67° C) for one hour. Mash out at 168° F (76° C).

Sparge with 168° F (76° C) water to collect 7 gallons. Boil 90 minutes. Cool to 70° F (21° C) and pitch yeast. Ferment at 72° F (22° C) for two weeks. Rack to secondary for additional two weeks.

Corn Triple

Ingredients

for 5 U.S. gallons (19 liters)

13 lb	(5.9 kg) Pilsener malt
2.0 lb	(0.9 kg) flaked corn
1.5 lb	(680 g) corn sugar (added to kettle)
1.0 oz	(28 g) Styrian Golding hops, 4% alpha acid (60 min)
1.0 oz	(28 g) Styrian Golding hops, 4% alpha acid (30 min)
0.5 oz	(14 g) Crystal hops, 2.1% alpha acid (15 min)
	Wyeast Belgian Ardennes Yeast or White Labs Belgian Ale Yeast

Directions

Mash grains at 150° F (66° C) for one hour. Mash out at 168° F (76° C).

Sparge with 168° F (76° C) water to collect 7 gallons. Boil 120 minutes. Cool to 70° F (21° C) and pitch yeast. Ferment at 67° F (19° C) for two weeks. Rack to secondary for additional two weeks.

Original Gravity: 1.088

Target Gravity: 1.015

IBUs: 26 (approximate)

Brewing Then and Now



The rich flatlands of Flanders were once an idyllic setting for the small, independent farms that dotted the landscape. Naturally, beer was brewed on these farms as it was an important part of Flemish culture and a necessary food product. The brewing season at farmhouse breweries was short due to the demands of sowing and harvesting crops. For farmhouse brewers, the cold winter months were spent building a stock of “provision beer” to drink during the rest of the year. Since the brewing season was shorter than usual these ales needed to remain relatively stable in flavor during long-term storage.

Observant brewers had learned that there were two primary ways to formulate a brew to help keep it stable over months of storage—increase the hopping rate or elevate the alcohol content. Increasing the hopping rate resulted in a more refreshing brew, while a beer with higher residual malt sugar provided greater sustenance. The two different methods resulted in distinct beer styles: one hoppy and refreshing, the other a full-bodied source of energy. In Flanders, these ales would be the forebears of French bière de garde and Belgian saison. Each approach appears to have played a part in distinctly differentiating (at least in modern times) the brewing styles of northern France and southwestern Belgium.

Historic Farmhouse Brewing

Few documents exist that describe the types of ale made on the farm breweries of Flanders. Their rural origin and peasant nature apparently precluded them from serious scholarly interest. A few intrepid brewing scientists, notably Englishman George Maw Johnson, sought to define the methods of the farmhouse breweries of Belgium and France versus the British (and German) brewing methods of that time. In an 1895 article entitled “Brewing in Belgium and Belgian Beers,” Johnson reported on a number of ales of varying strength, most commonly in the range of 6 to 10 °Plato (1.024 to 1.040 SG). At that time, Belgian brewers favored ales of low attenuation, in the range of 60 to 70%, in order to enhance flavor and drinkability; a thin-tasting beer was undesirable. These low-alcohol brews sometimes exhibited local peculiarities such as the use of various cereal grains, including both malted and unmalted barley (varying amounts of raw wheat, oats, or corn were sometimes added); period of storage; and blending of old and new beers.

Johnson noted that Belgian brewers used a composite of yeasts that “act perfectly” together and in terms of fermenting lower-gravity worts, outperformed the pure cultures used by British brewers. It is curious to note that these higher fermentation temperatures, multi-strain yeast cultures, and occasional use of non-traditional cereal grains are attributes that distinguish modern Belgian farmhouse ales (*saisons*) from more conventional Belgian ales.

Chapter 1 Farmhouse Ales



In 1905, English brewer R.E. Evans published “The Beers and Brewing Systems of Northern France,” reporting that of the 2,300 breweries in France, approximately 1,800 were located in the departments of Nord and Pas-de-Calais, formerly a large section of what was Flanders. The majority of these breweries were small, producing no more than 3,000 U.S. barrels per year.

Production in these small French breweries was centered on simple pale brews in the range of 9 to 13.5 °P (1.036 to 1.054 SG), known as bière du pays (country beers) or, in more urban areas, as public house or cabaret beers. These were ordinary ales brewed largely from local Champagne barley malts but often blended with barley grown in the African colonies. Small proportions of adjunct, generally less than 10 to 15% of the total extract, were often used, with cane sugar or glucose syrup most common. In some breweries, corn or rice flour was added to the mash tun. As noted by Johnson, Evans reported that extraordinarily long wort boils were commonplace—as long as nine to twelve hours. Evans remarked that the color of these brews was not nearly as dark as he would have expected and that the brewers sought “the maximum palate fullness and sweetness” to compensate for the low original gravities. Hops from the north of France and from Poperinge in Belgium were commonly used for bitterness while the finer varieties from Alsace, if used at all, were reserved for the last half-hour of the boil. Fermentation was carried out at a range of 64 to 72° F (18 to 22° C) using top fermenting yeasts. Typically, fermentation was completed forty-eight to seventy-two hours after pitching, then fined (generally with isinglass) and ready for serving five to six days after brewing. Some of the techniques mentioned define the modern French approach to specialty brewing, notably an emphasis on palate fullness and sweetness, use of a small portion of adjunct (often sugar), and a conventional ale fermentation (when ale yeast is used) in the range of 64 to 72° F (18 to 22° C).

Romantics may like to imagine the glory days of farmhouse brewing as a time when independent brewer-farmers produced wonderful, rustic ales for their own consumption. In reality, these homemade ales were extremely varied in taste and quality. As the name suggests, “farmhouse ales” were literally that, limited to the farms where they were brewed and not sold to a local market. Ironically, it was only when industrialization brought about larger breweries (with mechanized bottling lines) that transportation and distribution networks emerged and regional brands were established. As a result, some farmhouse styles eventually gained a larger audience, helping to insure their survival.

farmhouse ALES Culture and Craftsmanship in the Belgian Tradition



Phil Markowski

With contributions from
Tomme Arthur and Yvan De Baets

Modern Farmhouse Brewing

Today a national border separates the region of Wallonia in Belgium and the French departments of Nord and Pas-de-Calais, the area once collectively known as Flanders. Flanders was an agricultural region with a strong beer culture and a rich tradition of brewing. Over the past centuries Flanders has been subjected to foreign invasion and domination, shifting linguistic borders, industrialization, and two World Wars. While some farming tradition lives on today, the region has been



improved, larger breweries made the small local brewery practically unnecessary. As consumer tastes changed and old-fashioned ale styles fell out of favor at the expense of high-tech lagers (known at the time as bière de luxe in France), many small breweries fell by the wayside, unable to compete in either price or quality with the larger operations. A few small breweries hung in there, producing low-alcohol "table beers" and lagers for local distribution. Others stubbornly continued to market the old-time specialty

It is reasonable to speculate that the glory days of farmhouse ales may be now or in the near future. Today there are more versions of both bière de garde and saison than ten or twenty years ago, not only in their native regions but also in the "new world" of the United States and beyond.

largely transformed into a modern industrial complex typical of western Europe. On a cultural level, generations of separation have created two distinct national identities with a common history of brewing beer. The modern regions of Wallonia, Nord, and Pas-de-Calais may share a love of beer and brewing, but their approaches to their craft have seen the effects of the border that has officially divided them since 1831.

The two most identifiable styles that emerged (and survived) from small independent farm breweries are saison and bière de garde. Both were formulated to be stored over a period of several months as provisions during the time of year when brewing was not possible due to warm weather and other demands. It is possible that at some point a uniform style of ale was brewed throughout the Flanders region; there is no evidence to support or dispute this claim. After the region became divided it is evident that the French side evolved to favor the malt-accented, higher alcohol bière de garde style and that the Belgian side tended toward the drier, hoppy, lower alcohol brews categorized as saison.

In the late 1800s and early 1900s the region became increasingly industrialized and emphasis shifted from agriculture to mining the vast coal, stone, and ore deposits in the

area. This development led to population growth and an increased demand for beer and breweries, particularly on the French side. Wallonia had a mining industry but remained primarily agricultural. There, the small farm brewery is a visible part of the landscape; today, only a handful remains in what was once Flanders. Fewer still have tried to adhere to the traditional methods and styles produced in a bygone era, providing a window into the past.

Ironically, the largest number of surviving farmhouse breweries are not located in France or Belgium but in Franconia, in northern Bavaria. Today, scores of small farm breweries are alive in Franconia as compared to a dozen or so between France and Belgium. The original ale styles produced by Franconian breweries have long been lost to more modern tastes. These German farmhouse breweries now produce the standard lager beers popular in Bavaria as a result of changing consumer preferences. While this same phenomenon applies to farmhouse breweries in Belgium and France, a few stuck to the traditional ales. Fortunately, they were preserved and would later enjoy a renaissance of sorts as a younger generation rediscovered these obscure, old-fashioned ales.

As the Flanders region became more industrialized and transportation

brews to a dwindling audience. Many of the farmhouse breweries that survived probably were able to do so as a result of low operating costs (their equipment was paid for long ago), farmhouse ingenuity, and resourcefulness that kept old equipment running. A small brewery with debt was unable to compete with large, efficient industrial brewers. Then, in the late 1970s, the unlikely occurred—old style specialty beers came back into fashion. More astute small brewers shifted gears and a market for esoteric specialty brews began to grow, not only in Europe but in North America as well.

While it is less romantic that some of these farmhouse ales actually come from large industrial breweries, it is this reality that has made the styles better known and popular. Acceptance and widespread distribution of farmhouse-style ales paved the way for smaller brewers to make their own interpretations. There are still a few who make beer in original farm breweries; fewer still actually brew beer on working farms. Brasserie Dupont and Brasserie La Choulette are examples of this dying breed. Modern farmhouse ales have a strong link to their past but have rolled with the changing times to stave off extinction.

It is reasonable to speculate that the glory days of farmhouse ales may be now or in

the near future. Today there are more versions of both bière de garde and saison than ten or twenty years ago, not only in their native regions but also in the "new world" of the United States and beyond. They will continue to evolve, expanding the style definitions to accommodate an increasing range of possibilities. As evidence of this, in 2003 the Great American Beer Festival added a separate category for saison due to increasing production of this style in the United States. The number of commercial brands of bière de garde produced in France has never been greater than it is today. The name recognition of bière de garde has prompted many brewers to throw their hat into the ring and market a version of the style, sometimes with little regard to stylistic accuracy (as Americans see it). With this growing popularity and number of interpretations, these two major styles are alive and well, and we should relish the variations as they make the ales all the more intriguing. As the French are fond of saying, "Vive la différence!"

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Belgian-Style Brews (continued from 31)

Techniques and Procedures

A single infusion mash is generally fine for Belgian styles. I normally keep the temperature around 150 to 152° F in order to produce a highly fermentable wort, but you can experiment with different batches to bring out different characteristics. With some beers that contain a high proportion of wheat, you can do a protein rest in order to lower turbidity, but a slight haze is OK in most Belgian styles.

Because most Belgian beers are dominated by fruity esters and phenolics, many brewers believe that you need to ferment at high temperatures. But that can produce an overly phenolic beer that's prone to medicinal and solvent-like flavors. Most Belgian strains will give adequate phenols and higher alcohols without a high fermentation temperature.

Stick to standard ale temperatures of 65 to 68° F. If the yeast seems to be lagging, you can bump up the temperature a little, but avoid temperatures above the mid-70s unless the strain specifically says to ferment

it warm. The Wyeast Abbey II strain and, particularly, the saison yeasts (both from Wyeast or White Labs) seem to need temperatures in the low- to mid-70s in order to give the desired character to the beer.

As with any high gravity beer, oxygenate the wort thoroughly. To make a dry high gravity beer, you need healthy yeast. To get healthy yeast you need oxygen. Too much oxygen will kill yeast, but it's virtually impossible for a homebrewer to saturate the wort with that much oxygen.

I generally keg lower gravity beers out of convenience, but bottle conditioning is the preferred method of packaging for high gravity Belgian-style ales. The flavors will marry and round out. Spices that are too pronounced will mellow with age as well. If you want to build up additional phenols and esters in the beer without getting the off-flavors associated with high fermentation temperatures, you can condition the beer at warm temperatures for several weeks after bottling. I've used temperatures as high as 80 degrees for two to three weeks with good results. I don't do this all of the time, but certain yeasts seem

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to like the warm conditioning. You can always try it with a few bottles from a batch to see how they react. After the two- or three-week warm conditioning, store them as you would any other beer.

Recipe Formulation

There's no shortage of recipes available in books or on the Internet for Belgian ales (particularly for popular styles like abbey and wit beers), but there seems to be very little information for developing your own recipes. I've provided three recipes to use as guidelines in developing your own. You can brew them as-is or use them as a jumping off point. You may need to alter quantities to fit your brewing setup. All of these recipes have produced award-winning beers in competitions.

Bill Schneller has been a homebrewer for five years and brews mostly Belgian-style ales. He's also an accomplished sausage maker and cook, and is very interested in beer and food matching. He's a proud member of the Oregon Brew Crew, Oregon's oldest homebrewing club. E-mail him at Brauerei_Schneller@hotmail.com.



FOR THE LOVE OF BEER:

If you've ever wondered which beer festival is the best in the world, all you have to do is ask Michael Jackson.

"The Great American Beer Festival is the world's best beer festival by far. No other one comes close," Jackson said as he received a special Beer Journalism Award during the 23rd annual Association of Brewers Great American Beer Festival.

He would get no argument from the estimated 28,000 attendees who flocked to the Colorado Convention Center from September 30 to October 2. Each of the four sessions of the festival set records as

attendees were treated to a record 1,454 beers to sample.

He would get no argument from the 100 judges from four countries who worked their way through a record 2,016 entries in 67 categories and awarded 201 medals—the first time in several years that every possible medal was awarded.

And he would get no argument from the 398 breweries that brought their beers to showcase at the Convention Center.

Indeed, the Great American Beer Festival has grown from a modest affair with 22

breweries, 40 beers and 800 attendees in 1982 to be the center of the beer universe for one week.

From the Monday kickoff tapping party at Falling Rock Taphouse through last call Saturday night at the festival, brewers and beer lovers were treated to a schedule of beery events too packed for any one person to take in everything.

New this year was the Association of Brewers Beer Journalism Awards, sponsored by Rogue Ales. The awards were designed to recognize journalists whose work highlighted the flavor and diversity



Artist Ralph Steadman made a huge splash at the GABF.



The Coors/Monster Garage Firetruck Brewery was a focal point on the festival floor.



The brew crew from St. Arnold Brewing Co. in Houston shares a sip on the festival floor.

ASSOCIATION OF BREWERS

GREAT AMERICAN BEER FESTIVAL®

SEPTEMBER 30 – OCTOBER 2, 2004



23RD GABF SETS RECORDS

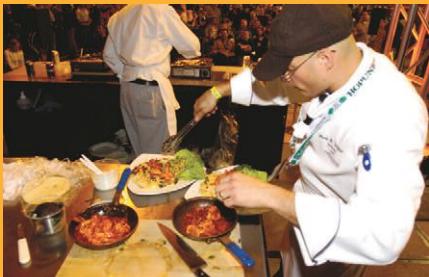
of American beer in the preceding year. Awards were presented in three categories: Consumer Print to James P. DeWan of the *Chicago Tribune* for a story titled "A Case for Beer;" Consumer Electronic to Lisa Morrison of the Internet Broadcast Systems Network for an online column titled "This Thanksgiving Beer is For the Bird," and Trade and Special Media to Stan Hieronymus for a story titled "For the Love of Hops," which he wrote for *All About Beer* magazine.

In addition, Jackson received a special Distinguished Service Award for his unparalleled body of work.

But the climax for brewers, as it has been since 1987, was the medal ceremony Saturday afternoon. And just as the festival itself has grown, the awards have expanded sixfold, from 33 medals in 11 categories in 1987 to 201 awards in 67 categories, plus Brewery and Brewmaster of the Year awards in five categories.

And while traditional craftbrewing hotbeds California, Colorado and Oregon once again took home their share of medals, the winners list was the most geographically diverse ever with breweries from 37 states claiming awards.

At least two medal-winning beers had direct links to homebrewing. The Big Horn Brewing Co.'s bronze medal beer in the Experimental Beer category was based directly on Japanese homebrewer Ichiro Fujiura's toasted coconut porter recipe that won him the American Homebrewers Association Homebrewer of the Year title in Portland in 1999. And the gold medal-winning British Stout for Widmer Brothers Brewing originated as part of the brewery's Collaborator project with the local Oregon Brew Crew. ☘



Johnson & Wales culinary instructors made festival-goers' mouths water with their cooking classes.



The Cocoa Pete's beer and chocolate pairing booth was a huge hit.



The festival featured the first-ever Association of Brewers Beer Journalism Awards.

GREAT AMERICAN BEER FESTIVAL WINNERS

Category: I Non-Alcoholic (Beer) Malt Beverage-5 Entries

Gold: Old Milwaukee NA, Pabst Brewing Company, San Antonio, TX
Silver: Coors NA, Coors Brewing Company, Golden, CO
Bronze: Odoul's Amber, Anheuser-Busch Inc., St. Louis, MO

Category: 2 American Lager/Ale or Cream Ale-23 Entries

Gold: Red Dog, Miller Brewing Company, Milwaukee, WI
Silver: Special Export, Pabst Brewing Company, San Antonio, TX
Bronze: Genesee Cream Ale, High Falls Brewing Company, Rochester, NY

Category: 3 American-Style Wheat Beer-20 Entries

Gold: Summer Solstice Wheat, Chelsea Brewing Company, New York, NY
Silver: Bullfrog Ale, Issaquah Brewhouse-Rogue Ales, Issaquah, WA
Bronze: Shiner Winter Ale, The Spotted Brewer, Shiner, TX

Category: 4 American-Style Hefeweizen-25 Entries

Gold: Hefeweizen, Pyramid Ales & Lagers, Seattle, WA
Silver: American Wheat, Upstream Brewing Company, Omaha, NE
Bronze: Mueller Unfiltered Wheat, Springfield Brewing Company, Springfield, MO

Category: 5 Fruit and Vegetable Beer-36 Entries

Gold: Raspberry Tart, New Glarus Brewing Company, New Glarus, WI
Silver: Chili Beer, Six Rivers Brewery, McKinleyville, CA
Bronze: Leinenkugel's Berry Weiss, Jacob Leinenkugel Brewing Company, Chippewa Falls, WI

Category: 6 Herb and Spice Beer-49 Entries

Gold: Somer Gras Citrus Ale, Wynkoop Brewing Company, Denver, CO
Silver: Heather Ale, Amherst Brewing Company, Amherst, MA
Bronze: Santa's Lil' Helper, Newport Beach Brewing Company, Newport Beach, CA

Category: 7 Coffee Flavored Beer-18 Entries

Gold: "Cup of Mud" Java Porter, Blind Tiger Brewery & Restaurant, Topeka, KS
Silver: Cup of Joe, C.J.'s Brewery & Grill, La Jolla, CA
Bronze: Double Espresso Stout, Barley Brothers Brewery & Grill, Lake Havasu City, AZ

Category: 8 Specialty Beer-13 Entries

Gold: Dubbel Down Brown, Santa Barbara Brewing Company, Santa Barbara, CA
Silver: Morimoto Soba Ale, Rogue Ales, Newport, OR
Bronze: Maple Wheaten, Pyramid Ales & Lagers, Seattle, WA

Category: 9 Rye Beer-12 Entries

Gold: Rye On, Chama River Brewing Company, Albuquerque, NM
Silver: Roggenbier, Rock Bottom Brewery-Des Moines, West Des Moines, IA
Bronze: Right on Rye, Rock Bottom Brewery-Bethesda, Bethesda, MD

Category: 10 Specialty Honey Lager or Ale-20 Entries

Gold: Midas Touch, Dogfish Head Craft Brewery, Milton, DE
Silver: Thunderstorm, Minneapolis Town Hall Brewery, Minneapolis, MN
Bronze: Orange Blossom Pilsner, Unique Beers, Orlando, FL

Category: 11 Experimental Beer-29 Entries

Gold: Samuel Adams Millennium, Boston Beer Company, Boston, MA
Silver: Benevolence, Cambridge Brewing Company, Cambridge, MA
Bronze: Palm Island Porter, Big Horn Brewing Co. @ The Ram 1, Tacoma, WA

Category: 12 Wood- and Barrel-Aged Beer-47 Entries

Gold: New Glarus Brown Ale, New Glarus Brewing Company, New Glarus, WI
Silver: 2002 Casked Barley Wine, Schooner's Grille & Brewery, Antioch, CA
Bronze: Bourbon Russian, Iron Hill Brewery & Restaurant #2, Wilmington, DE

Category: 13 Beer With Yeast-8 Entries

Gold: Triumph Kellerbier, Triumph Brewing Company of New Hope, New Hope, PA
Silver: Moonmen, Sandlot Brewery at Coors Field, Denver, CO
Bronze: The Detroit Dwarf, Detroit Beer Company, Detroit, MI

Category: 14 Smoke-Flavored Beer-19 Entries

Gold: O'Fallon Smoked Porter, O'Fallon Brewery, O'Fallon, MO
Silver: Triumph Rauchbier, Triumph Brewing Company of Princeton, Princeton, NJ
Bronze: Alaskan Smoked Porter, Alaskan Brewing Company, Juneau, AK

Category: 15 German-Style Pilsener-37 Entries

Gold: Provo Girl Pilsner, Utah Brewers Cooperative, Salt Lake City, UT
Silver: Ptarmigan Pilsner, Backcountry Brewing, Frisco, CO
Bronze: Sierra Nevada Summerfest, Sierra Nevada Brewing Company, Chico, CA

Category: 16 Bohemian-Style Pilsener-29 Entries

Gold: Gordon Biersch Czech Lager, Gordon Biersch Brewery Restaurant, Chattanooga, TN
Silver: Pallavicini Pilsner, Pug Ryans Brewery, Dillon, CO
Bronze: La Plata Pils, Carver Brewing Company, Durango, CO

Category: 17 Münchner-Style Helles-25 Entries

Gold: B.S. Helles, SandLot Brewery at Coors Field, Denver, CO
Silver: Helles, The Cowboy Restaurant & Brewery, Scottsdale, AZ
Bronze: Augsburger Goldener, Stevens Point Brewery, Stevens Point, WI

Category: 18 European-Style Pilsener-25 Entries

Gold: Mueller Lager, Springfield Brewing Company, Springfield, MO
Silver: Pilsner 500, Prescott Brewing Company, Prescott, AZ
Bronze: Herman Brau, SandLot Brewery at Coors Field, Denver, CO

Category: 19 American-Style Light Lager-33 Entries

Gold: Rainier Light, Pabst Brewing Company, San Antonio, TX
Silver: Old Milwaukee Light, Pabst Brewing Company, San Antonio, TX
Bronze: Michelob Light, Anheuser-Busch Inc., St. Louis, MO

Category: 20 American-Style "Light" Amber Lager-9 Entries

Gold: Mojo Lager, Starr Hill, Charlottesville, VA
Silver: Henry Weinhard Amber Light, Miller Brewing Company, Milwaukie, WI
Bronze: Coastal Light Pale, Firestone Walker Brewing Company, Paso Robles, CA

Category: 21 American-Style Lager-14 Entries

Gold: Old Milwaukee, Pabst Brewing Company, San Antonio, TX
Silver: Milwaukee's Best, Miller Brewing Company, Milwaukee, WI
Bronze: Schlitz, Pabst Brewing Company, San Antonio, TX

Category: 22 American-Style Premium Lager-14 Entries

Gold: Coors Original, Coors Brewing Company, Golden, CO
Silver: Miller High Life, Miller Brewing Company, Milwaukee, WI
Bronze: Pabst Blue Ribbon, Pabst Brewing Company, San Antonio, TX

Category: 23 American-Style Specialty Lager-19 Entries

Gold: Samurai Malt Liquor, Rock Bottom Brewery-Long Beach, Long Beach, CA
Silver: Schlitz Malt Liquor, Pabst Brewing Company, San Antonio, TX
Bronze: St. Ides Malt Liquor, Pabst Brewing Company, San Antonio, TX

Category: 24 Vienna-Style Lager-25 Entries

Gold: Genesee Red Lager, High Falls Brewing Company, Rochester, NY
Silver: Schild brau Amber, Millstream Brewing Company, Amana, IA
Bronze: Vienna Lager, Squatters Pub Brewery, Salt Lake City, UT

Category: 25 German-Style Märzen/Oktoberfest-52 Entries

Gold: Oktoberfest, Sprecher Brewing Company, Glendale, WI
Silver: Octfest, Old Dominion Brewing Company, Ashburn, VA
Bronze: Oktoberfest, Stoudt's Brewing Company, Adamstown, PA

Category: 26 American-Style Amber Lager-31 Entries

Gold: Old Scratch, Flying Dog Brewery, Denver, CO
Silver: Extreme Amber, BJ's Restaurant & Brewery, Woodland Hills/Oxnard, Huntington Beach, CA
Bronze: UBER BRAU, Big Horn Brewing Co. @ Humperdink's, Addison, TX

Category: 27 European-Style Dark/Münchner Dunkel-21 Entries

Gold: Dunkles Bock, Boundary Bay Brewery, Bellingham, WA
Silver: Dark Munich Lager, Rock Bottom Brewery-Desert Ridge, Phoenix, AZ
Bronze: Penn Dark, Pennsylvania Brewing Company, Pittsburgh, PA

Category: 28 American-Style Dark Lager-9 Entries

Gold: Beau Rivage Bock, Coast Brewing Company/Beau Rivage Resort, Biloxi, MS
Silver: Michelob Amber Bock, Anheuser-Busch Inc., St. Louis, MO
Bronze: Leinenkugel's Creamy Dark, Jacob Leinenkugel Brewing Company, Chippewa Falls, WI

Category: 29 German-Style Schwarzbier-28 Entries

Gold: Black Forest Schwarzbier, Squatters Pub Brewery, Salt Lake City, UT
Silver: Kings Pils, Uinta Brewing Company, Salt Lake City, UT
Bronze: Goose Island Schwarzbier, Goose Island Beer Company, Chicago, IL

Category: 30 Bock-15 Entries

Gold: Butt Head Bock, Tommyknocker Brewery, Idaho Springs, CO
Silver: Hops 15th Anniversary Bock, Hops Grillhouse and Brewery, Madison, GA
Bronze: Mai Bock, Sprecher Brewing Company, Glendale, WI

Category: 31 German-Style Strong Bock-20 Entries

Gold: Capital Autumnal Fire, Capital Brewery Company, Inc., Middleton, WI
Silver: Broken Keg Ice Bock, Port Brewing Pizza Port Carlsbad, Carlsbad, CA
Bronze: Eisbock, New Glarus Brewing Company, New Glarus, WI

Category: 32 Golden or Blonde Ale-38 Entries

Gold: All Nighter, Chicago Brewing Company, Las Vegas, NV
Silver: Mother Lode Golden, Laurelwood Public House & Brewery, Portland, OR
Bronze: Big Horn Blonde, Big Horn Brewing Co. @ The Ram 2, Wheeling, IL

Category: 33 German-Style Kölsch/Köln-Style Kölsch-36 Entries

Gold: Guido's Kolnerbrau, Snake River Brewing Company, Jackson, WY
Silver: Biloxi Blonde, Coast Brewing Company/Beau Rivage Resort, Biloxi, MS
Bronze: Mammoth Gold, Mammoth Brewing Company, Mammoth Lakes, CA

Category: 34 Classic English-Style Pale Ale-22 Entries

Gold: Starr Hill Pale Ale, Starr Hill, Charlottesville, VA
Silver: Millennium Ale, Coast Brewing Company/Beau Rivage Resort, Biloxi, MS
Bronze: Pitchfork Pale Ale, Jarre Creek Ranch Restaurant and Brewing Company, Castle Rock, CO

Category: 35 English-Style Summer Ale-26 Entries

Gold: Cascade Golden Ale, Deschutes Brewery, Bend, OR
Silver: Chasing Tail Ale, Utah Brewers Cooperative, Salt Lake City, UT
Bronze: Surfer's Summer Ale, Pelican Pub & Brewery, Pacific City, OR

Category: 36 English-Style India Pale Ale-26 Entries

Gold: Squatters India Pale Ale, Utah Brewers Cooperative, Salt Lake City, UT
Silver: Goose Island India Pale Ale, Goose Island Beer Company, Chicago, IL
Bronze: Newcomb's IPA, McCoy's Public House and Brew Kitchen, Kansas City, MO

Category: 37 American-Style Pale Ale-74 Entries

Gold: Duckdrive Pale Ale, Bill's Tavern & Brewhouse, Cannon Beach, OR
Silver: New River Pale Ale, New River Brewing Company, Atlanta, GA
Bronze: Dillon DAM Extra Pale Ale, Dillon DAM Brewery, Dillon, CO

Category: 38 American-Style Strong Pale Ale-37 Entries

Gold: Avery India Pale Ale, Avery Brewing Company, Boulder, CO
Silver: Boss IPA, Laurelwood Public House & Brewery, Portland, OR
Bronze: Fairweather IPA, Moose's Tooth Brewing Company, Anchorage, AK

Category: 39 American-Style India Pale Ale-93 Entries

Gold: India Pelican Ale, Pelican Pub & Brewery, Pacific City, OR
Silver: Wipeout IPA, Port Brewing Pizza Port Carlsbad, Carlsbad, CA
Bronze: IPA, Schooner's Grille & Brewery, Antioch, CA

Category: 40 Imperial or Double India Pale Ale-48 Entries

Gold: DoHenry Double IPA, Pizza Port San Clemente, San Clemente, CA
Silver: Frank Double IPA, Port Brewing Pizza Port Carlsbad, Carlsbad, CA
Bronze: Pliny the Elder, Russian River Brewing Company, Santa Rosa, CA

Category: 41 American-Style Amber/Red Ale-67 Entries

Gold: Hoptown Paint the Town Red, Hoptown Brewing Company, Pleasanton, CA
Silver: Red Nectar, Firestone Walker Brewing Company, Paso Robles, CA
Bronze: Arch Amber, Angelic Brewing Company, Madison, WI

Category: 42 Imperial or Double Red Ale-19 Entries

Gold: Hop Whompus, Ogg's Pizza and Brewing Company, San Clemente, CA
Silver: Hog Heaven, Avery Brewing Company, Boulder, CO
Bronze: Shark Attack, Pizza Port Solana Beach, Solana Beach, CA

Category: 43 Bitter-29 Entries

Gold: Drop Top Amber, Widmer Brothers Brewing, Portland, OR
Silver: Buckin' Bitter, Bottoms Up Brewing Company, Pinedale, WY
Bronze: Sunnyside Pale Ale, Snipes Mountain Brewing, Inc., Sunnyside, WA

Category: 44 Extra Special Bitter or Strong Bitter-41 Entries

Gold: The Wise ESB, Elysian Brewing Company, Seattle, WA
Silver: Alaskan ESB, Alaskan Brewing Company, Juneau, AK
Bronze: Bachelor ESB, Deschutes Brewery, Bend, OR

Category: 45 Scottish-Style Ale-20 Entries

Gold: Smokin Scottish Ale, Calhoun's Restaurant & Brewing Company of Harrisonburg, VA, Harrisonburg, VA
Silver: Hope & King Scotch Ale, Minneapolis Town Hall Brewery, Minneapolis, MN
Bronze: Charlie's Barley, Ham's Restaurant & Brewhouse, Greenville, NC

Category: 46 Irish-Style Red Ale-26 Entries

Gold: Fountain City Amber, 75th Street Brewery, Kansas City, MO
Silver: McIlhenney's Irish Red, Alpine Beer Company, Alpine, CA
Bronze: Casco Bay Riptide Red Ale, Casco Bay Brewing Company, Portland, ME

Category: 47 English-Style Brown Ale-42 Entries

Gold: Buster Nut Brown, SKA Brewing Company, Durango, CO
Silver: Nut Brown Ale, Island Brewing Company, Carpinteria, CA
Bronze: Nut Brown Ale, Long Valley Pub and Brewery, Long Valley, NJ

Category: 48 American-Style Brown Ale-37 Entries

Gold: Bitch Creek ESB, Grand Teton Brewing Company, Victor, ID
 Silver: Bearcat Brown Ale, Big Horn Brewing Co. @ The Ram 1, Tacoma, WA
 Bronze: Slow Down Brown, Il Vicino Brewing Company, Albuquerque, NM

Category: 49 German-Style Brown Ale/Düsseldorf-Style Altbier-26 Entries

Gold: Alt, Widmer Brothers Brewing, Portland, OR
 Silver: Four Alarm Alt, Pumphouse Brewery & Restaurant, Longmont, CO
 Bronze: Otis Alt, Elk Grove Brewery & Restaurant, Elk Grove, CA

Category: 50 South German-Style Hefeweizen/Hefeweissbier-55 Entries

Gold: Hefeweizen, Yazoo Brewing Company, Nashville, TN
 Silver: Weathervane Weissbier, Jarre Creek Ranch Restaurant and Brewing Company, Castle Rock, CO
 Bronze: Liquid X, Rock Bottom Brewery-Bethesda, Bethesda, MD

Category: 51 German-Style Wheat Ale-17 Entries

Gold: CBC Ultimate Weiss, Chicago Brewing Company, Las Vegas, NV
 Silver: Nodding Head Berliner Weisse, Nodding Head Brewing Company, Philadelphia, PA
 Bronze: Wasatch Hefeweizen, Utah Brewers Cooperative, Salt Lake City, UT

Category: 52 Belgian-Style White (or Wit)/Belgian-Style Wheat-34 Entries

Gold: Nit Wit, BJ's Restaurant & Brewery-Boulder/Chandler/Clear Lake, Huntington Beach, CA
 Silver: Katerina Wit, Main Street Brewery Lamppost Pizza, Corona, CA
 Bronze: Celis White, Michigan Brewing Company, Webberville, MI

Category: 53 French- and Belgian-Style Saison-21 Entries

Gold: Cave Aged Hennepin, Brewery Ommegang, Cooperstown, NY
 Silver: Saison de Carbs, Rio Salado Brewing Company, Inc., Tempe, AZ
 Bronze: Farm House Reserve, Fitgers Brewhouse, Duluth, MN

Category: 54 Belgian- and French-Style Ale-15 Entries

Gold: Oro De Calabaza, Jolly Pumpkin Artisan Ales, Dexter, MI
 Silver: Grand Cru, Minneapolis Town Hall Brewery, Minneapolis, MN
 Bronze: Bavay, McKenzie Brew House, Glen Mills, PA

Category: 55 Belgian-Style Sour Ale-18 Entries

Gold: Le Woody, Pizza Port Solana Beach, Solana Beach, CA
 Silver: Southampton Belgian Red Ale, Southampton Publick House, Southampton, NY
 Bronze: Sour Prick, Bitter End Bistro & Brewery, Austin, TX

Category: 56 Belgian-Style Abbey Ale-38 Entries

Gold: Abbey Belgian Style Ale, New Belgium Brewing Company, Fort Collins, CO
 Silver: Bishop's Tipple Trippel, Main Street Brewery Lamppost Pizza, Corona, CA
 Bronze: Tripel, Iron Hill Brewery & Restaurant #1, Wilmington, DE

Category: 57 Belgian-Style Strong Specialty Ale-27 Entries

Gold: Sterk Wit, The Alchemist, Waterbury, VT
 Silver: Damnation, Russian River Brewing Company, Santa Rosa, CA
 Bronze: Cuvee De Timme, Pizza Port Solana Beach, Solana Beach, CA

Category: 58 Robust Porter-48 Entries

Gold: Snipes Porter, Snipes Mountain Brewing, Inc., Sunnyside, WA
 Silver: Black Sand Porter, Kona Brewing Company, Kailua-Kona, HI
 Bronze: Edmund Fitzgerald, Great Lakes Brewing Company, Cleveland, OH

Category: 59 Brown Porter-41 Entries

Gold: Pete Brown Tribute Ale, Bear Republic Brewing Co., Inc., Healdsburg, CA
 Silver: St. Charles Porter, Blackstone Restaurant & Brewery, Nashville, TN
 Bronze: Pyramid Porter, Pyramid Ales & Lagers, Seattle, WA

Category: 60 Classic Irish-Style Dry Stout-25 Entries

Gold: Seaside Stout, Pizza Port Solana Beach, Solana Beach, CA
 Silver: Boulevard Dry Stout, Boulevard Brewing Company, Kansas City, MO
 Bronze: Blarney Sister's Dry Irish Stout, Third Street Aleworks, Santa Rosa, CA

Category: 61 Foreign (Export)-Style Stout-32 Entries

Gold: Custer's Last Stout, Montana Brewing Company, Billings, MT
 Silver: Tsunami Stout, Pelican Pub & Brewery, Pacific City, OR
 Bronze: Obsidian Stout, Deschutes Brewery, Bend, OR

Category: 62 British Stout-49 Entries

Gold: Snowplow Milk Stout, Widmer Brothers Brewing, Portland, OR
 Silver: Oatmeal Stout X, Rock Bottom Brewery-Long Beach, Long Beach, CA
 Bronze: Barney Flats, Anderson Valley Brewing Company, Booneville, CA

Category: 63 Imperial Stout-43 Entries

Gold: First Date Stout, Steelhead Brewing Company-Burlingame, Burlingame, CA
 Silver: Imperial Stout, Silver City Brewing Company, Silverdale, WA
 Bronze: The Legend of the Liquid Brain, Bull & Bush Brewery, Denver, CO

Category: 64 Strong Scotch Ale-23 Entries

Gold: Scotch Ale, Sprecher Brewing Company, Glendale, WI
 Silver: Founders Margrets Scotch Ale, Founders Restaurant & Brewing Company, Alexandria, VA
 Bronze: AleSmith Wee Heavy, AleSmith Brewing Company, San Diego, CA

Category: 65 Old Ale/Strong Ale-31 Entries

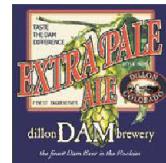
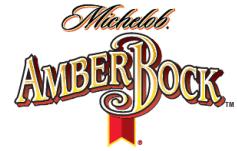
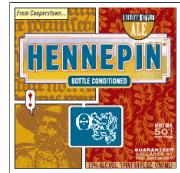
Gold: Fat Tuesday Strong Ale, Redfish New Orleans Brewhouse, Boulder, CO
 Silver: XXX Exultation, Eel River Brewing Company, Fortuna, CA
 Bronze: Freeride, Big Horn Brewing Co. @ The Ram 1, Tacoma, WA

Category: 66 Other Strong Ale or Lager-26 Entries

Gold: Dragonstooh Stout, Elysian Brewing Company, Seattle, WA
 Silver: Roggenbock, Il Vicino Brewing Company, Albuquerque, NM
 Bronze: Small Craft, Clipper City Brewing Company, Baltimore, MD

Category: 67 Barley Wine-Style Ale-37 Entries

Gold: Big Woody, Glacier Brewhouse, Anchorage, AK
 Silver: Old Bounder, Boundary Bay Brewery, Bellingham, WA
 Bronze: Old Crustacean, Rogue Ales, Newport, OR





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Santa Barbara Brewing Co.
Santa Barbara

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San Marcos

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Denver

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Colorado Springs, Denver, Golden,
Littleton, Northglenn

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Lyons

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Denver, Englewood, Westminster

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Rock Bottom Restaurants
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Indianapolis

Upland Brewing Co.
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Court Avenue Brewing Co.
Des Moines

Old Chicago
Bettendorf

Racoon River Brewing Co.
Des Moines

Rock Bottom Restaurants
Des Moines

KANSAS

Old Chicago
Lawrence, Lenexa, Overland Park, Wichita (3)

MARYLAND

Hops Grillhouse and Brewery
Owings Mills

Rock Bottom Restaurants
Bethesda

MASSACHUSETTS

Rock Bottom Restaurants
Boston, Braintree

Watch City Brewing Co.
Waltham

MICHIGAN

Big Buck Brewery & Steak House
Auburn Hills, Gaylord

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Prairie, Minneapolis (2), Minnetonka,
Plymouth, Roseville

Rock Bottom Restaurants
Minneapolis

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Kansas City

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Il Vicino Brewing Co.
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CH Evans Brewing Co. at the
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Albany

Ellicottville Brewing Co.
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Lake Placid Craft Brewing Co.
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BJ's Restaurant Bar & Brewery
Eugene, Portland (2)

Laurelwood Public House &
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Old Chicago
Beaverton, Gresham, Portland (2)

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worked on a partial grain amberish hoppy thing of my own and shared a lot of that with friends.

What did they say?

Dude...they were young too. They loved it. (Not that I would ever condone underage chemical experimentation such as this.)

What is the highest award your beers have won?

Gold medal at the World Beer Cup®.

What is one piece of brewing equipment you can't live without?

A glass to put the finished product in and a good sound system.

What is your favorite beer book?

I have two. I love reading Garrett Oliver's *The Brewmaster's Table*. It is great reading for all beer and food lovers. I love food too. As far as reference material goes, the most beat-up book on my shelf is *New Brewing Lager Beer* by Greg Noonan. Heaps and loads of helpful brewing information.

"THE BEST THING ABOUT BEER IS..." THE WAY IT BRINGS PEOPLE TOGETHER.

What is your favorite style to brew?
Northwest-style India Pale Ale. All those hops make the house smell wonderful!

What is your favorite style to drink?
It depends on what I'm eating or what I'm doing. Lately I've been loving well-balanced, full-bodied pale ales. Simple, but elegant if brewed well.

What is the best beer you've ever brewed?
That's hard to answer. Sometimes I like the beer I make, mostly I am humbled by other brewers and beers, especially here in the Pacific Northwest. I am very proud of a couple lambic-style beers I've made.

What is the best beer you've ever drunk?
There are too many best beers to count. I am firmly entrenched in the ideal of beer being a communal beverage that it is meant to be shared with friends. I remember going to the Archer Ale House in Bellingham when I was a new assistant brewer to Paul Wasking in Anacortes. He took me to a Hair of the Dog beer dinner there and I'll never forget drinking Adam for the first time in 1996. Amazing! It has always been one of my favorites.

What six beers are in your "desert island six-pack"?

I'd rather take a case, but if I must, here goes:
1. Piston Pale Ale, Laurelwood Brewing Company; 2. Adam, Hair of the Dog; 3. Charlie 1981 (2000 version), Rogue Ales; 4. Queen Nina's Imperial IPA, Water Street Brewing Company; 5. Rose de Gambrinus, Cantillon; 6. Frank, Pizza Port.

If you asked me this question tomorrow, the answer would be different as I'll be in a different mood, although I'll still keep the Piston Pale (my current favorite).

Finish this sentence: "The best thing about beer is..."

The way it brings people together. We can share beer, we can go to beer festivals together, we can talk about and "geek-out" over beer, we can brew together, we can meet over a beer and talk about politics, or baseball, or the weather. We can share a beer and school our friends in the fine art of shuffleboard, or we can plan an intimate dinner for two and share a beer over a great meal.

Arlen's Northwest IPA

All-Grain Recipe

Ingredients

for 5 U.S. gallons (19 liters)

9.5 lb	(4.30 kg) Marris Otter Pale Ale
0.5 lb	(0.22 kg) Dingeman's Aromatic Malt
2.0 oz	(56 g) pellet Amarillo hops, 8.2% alpha acid (first wort hop)
2.0 oz	(56 g) pellet Amarillo hops, 8.2% alpha acid (15 min)
1.0 oz	(28 g) pellet Amarillo hops, 8.2% alpha acid (dry hop) American ale yeast

Directions

Single infusion mash at 152° F (67° C). Ferment at 70° F (21° C) for one week. Transfer to secondary, dry hop and let sit on hops another week.

Original Gravity: 1.057

Final Gravity: 1.012

Boil time: 60 min

by Lucy Saunders

Got Milk? Make Some Cheese



Beer is a natural partner for cheese, as both are fermented foods, made from sugary ingredients and given character and style according to the imagination of the maker. Regional styles of cheese are as varied as craft beer, which is part of the appeal of home cheesemaking.

"One of the things that homebrewers will appreciate about the hobby of home cheesemaking is that all cheese is a living product, and therefore you can make a starter for your cheese," says Steve Casselman of San Jose, Calif. Casselman has organized several cheesemaking workshops for homebrewers and other hobbyists at the Home Wine, Beer & Cheesemaking Shop in Woodland Hills, Calif.

"I have been homebrewing for 20-plus years, and find that I can make virtually any style of cheese at home, using just store-bought milk and cream," says Casselman.

Like brewing beer, the making of cheese centuries ago was a domestic skill that became an artisan's work. Cheesemaking turned into a mass industry in the 19th century, and now the mass market is returning to artisan styles in the United States. According to Ricki Carroll, owner of the New England Cheesemaking Supply Co. and author of *Home Cheese Making*, "The art of cheesemaking continues to

flourish in homes, though it's not as widely practiced as homebrewing."

Some of the motives may be the same. Just as your creative efforts in brewing beer at home can yield great savings, home cheesemaking is an economical way to enjoy cheese at a fraction of the typical retail price. You can make about 1 to 2 pounds of cheese for little more than the cost of a gallon of milk and a quart of cream. The savings are even greater if you make cheese from organic milk, as many organic cheeses sell for more than \$10 per pound.

There are dozens of styles of cheese. Inoculated or mold ripened cheeses such as Brie, blue cheese and hard cheeses such as cheddar do need substantial aging for rind development and ripening. But as Casselman points out, the benefit is that you can control the seasonings and amount of salt in the aged cheeses you make at home. "I just opened a year-old cheddar that I had waxed and aged, and it was one of the best cheddars I've ever had," Casselman says. "The smaller 1- or 2-pound cheeses mature faster, and another great thing is that you can add ingredients that would never make it in the commercial marketplace. I made a hot pepper cheese with two gallons of milk and a gallon of cream, and everybody loved it."

There are many fresh styles of cheese such as mascarpone or cream cheese that can be eaten on the same day they are made. Some of the flavor additions Casselman has tried include garlic, chile pepper, herbs, mushrooms, ripe black olives, cracked black pepper and even dark ale added to the cream base.

Cheesemaker and homebrewer Jim Wallace of Shelburne Falls, Mass., teaches artisanal cheese methods at the New England Cheesemaking Supply Co. He likes to use his homebrewed Pils, redolent of Saaz hops, for a rind wash on Gruyere cheese as it ages. "It adds a lot of wonderful aromatics," says Wallace.

Cheesemakers classify their products according to milks and styles. In general, there are three main styles of cheese: hard, soft and fresh. Cheeses also vary according to how the curd is treated, through pressing, stretching, pulling or cutting. In the United States, most cheese is made with cow's milk, though more commercial dairies are producing cheeses with goat and/or sheep's milk, or a combination of all three. If you have access to fresh dairy milk, you're in luck. Milk that's been only flash pasteurized is much easier to handle. Homogenization shapes the fat globules into uniform sizes, which is good for fluid milk in that it creates a smoother mouth-

feel. However, homogenized milk is harder to use in making pulled or stretched curd cheeses such as mozzarella.

When making cheese at home, aim for a ratio of two or three parts whole milk to one part cream. You can get between 1 to 2 pounds of cheese per gallon, with slight variations in yield according to the starter or culture you use to ferment the milk.

"First, *sanitize* everything. All your equipment and work surfaces should be completely clean," states Carroll. Homebrewers have an advantage in that many of the tools used in cheesemaking are already on hand: stainless-steel cooking pots, stirring utensils, sieves, a long-bladed straight knife to cut curds, pH meter and thermometer. "If you are aging cheeses, you will also need a refrigerator with a temperature and humidity controller for proper aging," adds Casselman.

The acid balance in milk is vital to making the curds. Curds can be formed simply by adding an acid such as lemon juice or vinegar to the milk, or adding rennet. Rennet contains an enzyme, rennin, that causes coagulation. Or, you can first ferment the milk with a lactose-eating bacterial starter that will produce enough lactic acid to make the milk coagulate into curds. So-called "acid fluid" cheeses are easy enough to have your kids help you make it in an afternoon. However, the most interesting

cheese flavors typically come from fermentation with the starter culture.

Naturally, the fresher your milk, the better the fresh cheese will taste. However, most of us don't have access to dairy-fresh milk straight from the cow or goat. In that case, a few judicious mix-ins, such as chopped fresh herbs or garlic, will add flavor. Be sure to taste as you add salt, so as not to overdo it. You can also add spices such as celery seed or mustard seed that has soaked in ale or lager overnight for a robust flavor and texture.

According to Casselman, "The basic process is that you bring the milk up to 86° F and add the lactic bacteria or starter, then wait about an hour. Then you add the rennet and wait another hour. By this time, you should have a firm curd (think of milk gelatin). You then cut the curd and if making a soft cheese, put the cubes into a colander lined with cheesecloth. If you are making a harder cheese, you need to cook the curds to about 100° F, which makes them tighten up and removes moisture, and then pack the curds into cheese molds that are perforated to let the curds drain. Once the cheese has drained for several hours, you can add seasonings or flavorings."

Carroll advises caution in handling the curds. "Rough stirring of the curd can produce lower yields and result in fat and protein losses. Overheating your milk or heat-

ing the curds too quickly can also give you a drier cheese that cracks." She recommends starting out with a fresh, soft cheese such as cream cheese, for simplicity's sake.

Hard cheese production is a bit more complicated. Such cheeses require ripening the milk by bringing it to about 86° F. The heat speeds the bacterial action of the culture or starter, and the increase of lactic acid in the milk aids in making rennet coagulate the warm milk into curds, helps develop and even preserves flavor in the aged cheese. Be sure to dilute the rennet in warm milk to make sure it can be mixed evenly into the curd. If it is unevenly distributed, the curd won't develop properly.

Rennet helps trap the butterfat into the curd. This yields a cheese that is moist and flavorful. Also, be sure to cut the curds when ready—if you cut it too soon, it will result in the cheese losing a considerable amount of butterfat.

Once the cut curds are cooked, they are drained and seasoned. Breaking the curd cubes into smaller pieces makes it easier to mix in seasonings and salt evenly for good flavor and texture. Cut and drained curds are placed in the cheesecloth-lined molds and pressed to expel more whey, form the shape of the cheese and firm up the texture.

The formed cheese is air-dried to help it grow a rind in anticipation of the aging process. A hard cheese may be bandaged in gauze strips and bathed in a rind wash such as B. linens, spritzed with spirits such as Calvados or even oiled with olive oil. The method you choose for this stage of production has a greater impact on the final flavor of the aged cheese. Naturally, the longer the cheese ages, the more intense the flavor and aromatics.

Resources

American Cheese Society,

<http://cheesesociety.org>

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Lucy Saunders is editor of beer-cook.com.

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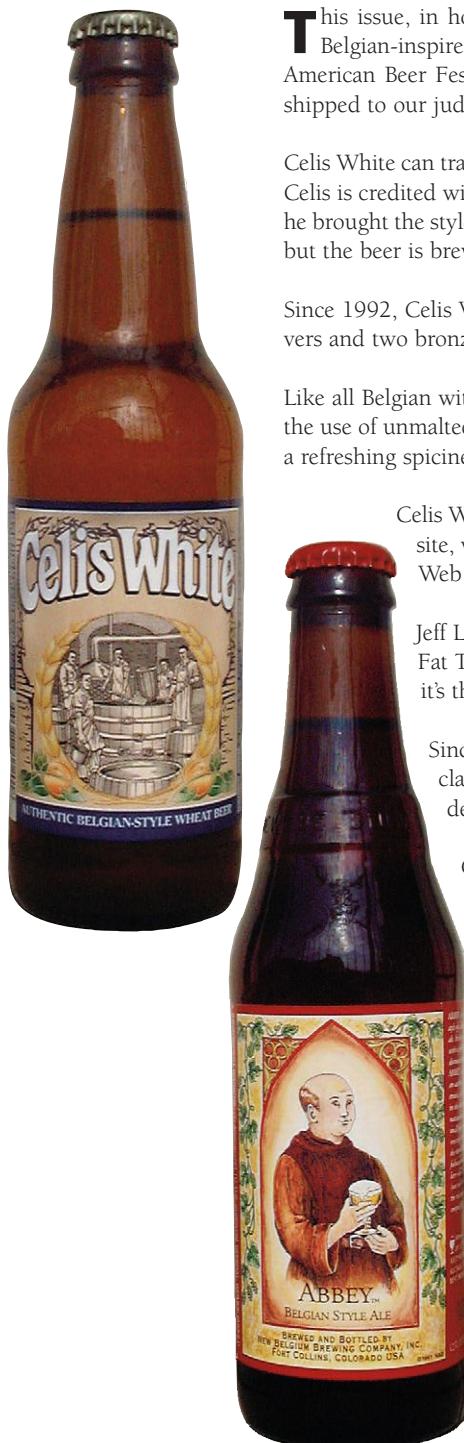


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COMMERCIAL CALIBRATION

One way beer judges check their palates is by using commercial "calibration" beers—classic versions of the style they represent. Zymurgy has assembled a panel of four judges who have attained at least the rank of Master in the Beer Judge Certification Program. Each issue they will score two widely available commercial beers (or meads or ciders) using the BJCP scoresheet. We invite you to download your own scoresheets at www.bjcp.org, pick up a bottle of each of the beverages and judge along with them in our Commercial Calibration.



This issue, in honor of our Belgian theme, we have sicced our panel of primo palates on a pair of Belgian-inspired American craft beers, both of which are multiple award winners at the Great American Beer Festival. Both beers were purchased at Liquid Solutions (www.liquidsolutions.ws) and shipped to our judges.

Celis White can trace its roots back more than 30 years, across two continents and three breweries. Pierre Celis is credited with reviving the Belgian wit, or white beer, in 1965 with his Hoegaarden Wit. In 1991, he brought the style to America, building his Celis Brewery in Austin, Texas. The brewery closed in 2000, but the beer is brewed today by the Michigan Brewing Company in Webberville, Mich.

Since 1992, Celis White has won nine medals at the Great American Beer Festival: four golds, three silvers and two bronzes.

Like all Belgian wits, Celis White gets its pale straw color, slight cloudiness and creamy mouthfeel from the use of unmalted wheat in the mash. The addition of coriander, orange peel and other spices provides a refreshing spiciness, making wit beers a great summer refresher.

Celis White fits into BJCP category 16A, Witbier. For a full style description, see the BJCP Web site, www.bjcp.org. For more information on Celis White, check out the Michigan Brewing Web site at www.michiganbrewing.com.

Jeff Lebesch and Kim Jordan's New Belgium Brewing Company may be best known for its Fat Tire Amber Ale, but when it comes to recognition at the Great American Beer Festival, it's the deep, dark Abbey that brings home the heavy medals.

Since the GABF added separate categories for Belgian-style ales in 1993, Abbey has claimed six gold medals and three bronzes, tying with Celis White as the most highly decorated Belgian-style ale brewed in America.

Crafted in the dubbel style, Abbey is a dark mahogany ale, brewed with a traditional Belgian abbey yeast and a variety of specialty malts. The aroma evokes bananas, spice and fine cigar smoke. The flavor carries through with notes of ripe fig, caramel and coffee bean.

Beer journalist Marty Jones wrote of Abbey, "It's Colorado holy water. This righteous Belgian-style ale is enough to make you don a monk's habit and consider celibacy."

Abbey fits into BJCP category 18B, Belgian dubbel. For a full style description, see the BJCP Web site, www.bjcp.org. For more information on Abbey and other New Belgium beers, see www.newbelgium.com.

Our expert panel includes *David Houseman*, a Grand Master II judge and competition director for the BJCP from Chester Springs, Pa; *Beth Zangari*, a Master level judge from Placerville, Calif. and founding member of the Hangtown Association of Zymurgy Enthusiasts (H.A.Z.E.); *Scott Bickham*, a Grand Master II judge from Corning, N.Y., who has been exam director or associate exam director for the BJCP since 1985; and *Gordon Strong*, a Grand Master II judge and principal author of the new BJCP Style Guidelines who lives in Beavercreek, Ohio.

THE SCORES



Celis White — Michigan Brewing Company, Webberville, Mich.

BJCP Category: 16A Witbier



DAVE HOUSEMAN

THE JUDGES' SCORES FOR CELIS WHITE



BETH ZANGARI



SCOTT BICKHAM



GORDON STRONG

Aroma: Phenols dominate. Some notes of vanilla, ham, vegetal character. Phenols are somewhat medicinal with low orange notes. No diacetyl. A low level of malt sweetness and light wheat character with no hop aroma. (7/12)

Appearance: Light yellow with considerable cloudiness and thick, tight, long-lasting head. (3/3)

Flavor: Malty sweetness with a soapy finish. Spicy phenols dominate and provide a pleasant reward in aftertaste. Low hop bitterness leaves an unbalanced finish as a bit too sweet. No hop flavor—OK. No diacetyl. Low esters from fermentation. Light tartness. (13/20)

Mouthfeel: Slippery, slick, creamy mouthfeel. Well carbonated. Bit of astringency; perhaps from spices. Medium body. (4/5)

Overall Impression: A pleasant beer whose flavor is a better experience than the aroma. Overemphasis on spicy phenols that are somewhat medicinal. The orange-like, perfumey notes from coriander are missing; this would have helped to balance the overall drinking experience. Additional tartness also would have helped to balance the sweetness. This would go well with a bowl of cheddar cheese soup. (7/10)

Total Score: (34/50)

Aroma: Honey and spice, coriander. Very faint wheaty note. Spicy earthy note from hops. A touch of tartness. (10/12)

Appearance: Tight creamy off-white head. Some larger bubbles. Looks like whipped egg whites. Pale gold with crystal clarity. Effervescent continues to rise to the top of the glass. Where is the "wit?" (2/3)

Flavor: Faint wheatiness follows the nose. Fruity flavors emerge, with some bubblegum. Definite orange peel character without pith bitterness. Coriander comes across as a little soapy—not appropriate for style, and a little bothersome. Clove character emerges as the beer warms. Crisp finish with lingering orange and a little tartness. Very little if any hop character detected. (16/20)

Mouthfeel: Medium light body with effervescent carbonation. Has a slight mouth-coating feel that hints toward a slightly phenolic character, but a crisp slight tartness cleans up the finish. (4/5)

Overall Impression: The nose led me to expect a crisper, cleaner beer than this example. The characteristic curaçao orange and coriander flavors were present, but the clove spiciness overpowered the finish for me. The bubblegum was a little heavier than what I expect in a wit beer. Typical American example of a classic European beer style, it seems just a little bigger than it should be for my preference. A little heavier than either a Hogaarden, or even the Celis White I remember from the original American brewery. Perhaps nostalgia for the old days is influencing my taste buds. A very good wit beer. (7/10)

Total Score: (39/50)

Aroma: Citrus and spicy notes from coriander jump out immediately. Notes of lemon and lemongrass along with some orange peel. Soft breadiness from wheat in the background. (9/12)

Appearance: Light straw color, greater than 4 SRM. Slight haze but well within expectations. Effervescent with a long-lasting head. (3/3)

Flavor: Starts with a soft roundness from the wheat, but honey notes make it a bit sweeter than I would like in a refreshing beer style. Spicy flavors develop slowly, adding lemony and earthy tones. Finish has modest hop bitterness, and a slight sourness that emphasizes citric character. Noticeable soapiness in the finish—this flavor is common in young samples. (13/20)

Mouthfeel: Wheat gives a nice rounded mouthfeel, but is a little fuller in body than most examples. There is also some astringency that detracts from the finish. (4/5)

Overall Impression: Solid example of the Belgian white style. The balance is toward the sweet side, and while some of this is necessary to support the spiciness, it could be more refreshing. The soapiness is a little more assertive than I would like, but the beer is still quite flavorful and drinkable. (7/10)

Total Score: (36/50)

Aroma: Distinctive orange-coriander nose, fairly strong. Lightly hoppy/spicy with moderate wheat. Some tartness. Hint of vanilla and honey—seems a bit sweet. (9/12)

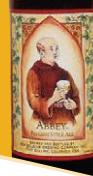
Appearance: Huge white fluffy head, settled slowly. Very pale yellow. Moderate haze, although not as much as Hoegaarden. (3/3)

Flavor: Strong fruit and spice: orange-lemon and coriander-clove. Maybe a bit floral. Medium-low bitterness, a bit too high. Starts sweet and surprisingly malty. Light honey flavor. Wheat shows up mid-palate and lasts into the finish. Light tartness. Fairly clean. (14/20)

Mouthfeel: Medium body—a bit thick and chewy for style. Not as crisp as expected. Medium-high carbonation. Fluffy, creamy tasting. (3/5)

Overall Impression: Spices and bitterness a bit high for style, as is body and maltiness. It's balanced, but the intensity of these attributes is exaggerated. Tasty but not as refreshing as it would have been if these characteristics were dialed back. My wife pounded it, though, so perhaps they know their market. (6/10)

Total Score: (35/50)



THE JUDGES' SCORES FOR NEW BELGIUM ABBEY



Aroma: Sweet, aromatic malt aroma with hints of raisin and plum fruity esters. Noticeable alcohol adds to complexity. No diacetyl. Very low phenols. No hop aroma. (10/12)

Appearance: Orange-amber color on the low end of the style; not as dark as many examples. Very clear. Large, mousey, long-lasting head. (3/3)

Flavor: Sweet malt flavor with a woody, roast (chocolate) malt presence and a drying finish. Moderate and balancing hop bitterness. No hop flavor. A candi-sugar-like sweetness with complexity from higher alcohol levels. Fruity esters (prunes) are moderate; additional esters would be welcome. (15/20)

Mouthfeel: Mousey, light, soft mouthfeel. Medium body. Highly carbonated. Alcohol warmth evident. Some astringency that detracts from the drinking experience. (4/5)

Overall Impression: Beautiful appearance and wonderful aroma. Complex flavor is right on target with only a lingering astringency that detracts from an otherwise very good dubbel. A good accompaniment to beef stew. (8/10)

Total Score: (40/50)



Aroma: Rich caramel, currant with a very little banana. The beer as it warms reminds me of banana bread. A light toasted walnut aroma with chocolate emerges as well. Does not really have any hop aroma, skewed toward malt and esters. (10/12)

Appearance: Pours rather foamy, filling the glass to two-thirds. Cascades like a Guinness in the glass. Deep golden to amber; a definite reddish hue. Fine off-white head lingers to the bottom of the glass, forms lace on the sides. (2/3)

Flavor: The rich caramel malt flavor provides a firm foundation for the currant raisin, banana flavors and evident alcohol. Toward the finish is a slight cardboard note indicating perhaps some age on this bottle. A bit of toastiness like from Munich malt adds to the earthy, slightly woody finish. Higher alcohols are evident, sort of like new paint on fir lumber. (17/20)

Mouthfeel: Medium-full bodied with fairly high carbonation, feels creamy but finishes clean. Alcoholic warmth lingers. Hop bitterness with a hint of tartness are just enough to keep the finish from being cloying. (3/5)

Overall Impression: Though this particular sample is a little hot and heavy on the alcohols for the style, the rich malt, ester, earthy complexity would stand up well against the classics. It drinks closer to an Afflegem than a Grimbergen, and I think it could actually improve with another month or so in the bottle. The malt character and currant flavors are pleasant, but would be more so with the alcohol cooled down a bit. Would be really good with warm banana bread and butter, or roast beef with brown gravy and mashed potatoes. Good for a cold, stormy night. Well done. (9/10)

Total Score: (41/50)



Aroma: Bouquet of esters, alcohols and, to a lesser extent, phenols. Notes of bubblegum, banana and pepper. Belgian character is evident, but solvent notes are a little too assertive. Malty sweetness is apparent with caramel and dark candi sugar. Raisins and dark fruits add complexity. (9/12)

Appearance: Deep copper color, great clarity. Head color is surprisingly light compared to the beer color, and the retention is superb. (3/3)

Flavor: Malt is subdued up front, with roastiness coming later. Alcohol is more apparent than in most commercial dubbels, but is on the mark for a dark strong. Yeast character includes bubblegum esters, dark fruits and pepper and smoky phenols. Hop bitterness is appropriately restrained, but there is some lingering harshness and warmth from the higher alcohols. (14/20)

Mouthfeel: Body is thinner than most examples, even as the beer warms. Also some harshness from acetate esters and higher alcohols. Good carbonation. (3/5)

Overall Impression: In the same vein as Chimay Red, but not as refined. Balance leans strongly toward fermentation, which is certainly acceptable, but a less aggressive level of acetate esters and higher alcohols would help bring out the malt complexity. (6/10)

Total Score: (35/50)



Aroma: Complex: fruit, alcohol, spice and malt. Some solvent. Deep, dark fruit (raisin, plum). Spicy alcohol and some clove phenolics. Rich malt—bread, toast, caramel. Hint of chocolate and dried cherry. (11/12)

Appearance: Moderate, creamy off-white head. Rocky and long-lasting. Light copper color with deep reddish highlights. Crystal clear. Very pretty. (3/3)

Flavor: Complex. Moderate bitterness seems a bit high, lingering into the finish. Perhaps the bitterness is accentuated by the dry, spicy alcohol and solvent flavors. Rich malt—caramel, bread, toast, Munich-like base. Hint of roast detracts. Spicy, perhaps with some fusel alcohols. Dried fruit and spices (as in aroma). Finishes full but with a slightly harsh dryness from the alcohol. (14/20)

Mouthfeel: Medium-full body. High carbonation. Moderate warmth. Creamy. Alcohol seems hot: perhaps this would improve with age. (4/5)

Overall Impression: Might be young (label says "best before July 05" and it's now late October 04). Very interesting complexity in malt and yeast choice. I'd cut back on any roasted malts present and maybe lower the fermentation temperature. Definitely let it age to smooth out and reduce hotness. Perhaps also reduce bittering hops. I'd give it at least another three to six months cellaring. (7/10)

Total Score: (39/50)



Jeff Bagby's Hop Whompus Ale

These are extraordinary times for beer, brewing and the American Homebrewers Association. On December 5, 1978, Charlie Matzen and I picked up the first issue of *Zymurgy* magazine. I set out in my beat-up 1969 Toyota Corolla and navigated a foot-and-a-half of snow that day to set the wheels in motion for a new world of beer. It has never been the same since. My beer world offers great beer at the dinner table every day, with an assortment of ales and lagers forever on tap.

The Association of Brewers will soon be evolving into a reorganized institution called the Brewers Association. The American Homebrewers Association will remain a core value of the reorganization, representing the flavor and diversity of craft beer. The process and hours have been long beyond imagination. All of the 23 staff members of the American Homebrewers Association/Brewers Association look forward to injecting



Bagby with his World Beer Cup® award.

new energy into the American Homebrewers Association.

The life of a Brewers Association staffer is diverse to no end. The rewards are represented in the excitement of brewing and endless glasses of quality beer. One other project I have found myself immersed in during my spare time is recollecting 26 years of beer experiences, visits with breweries, people and beer. I'm writing a book to be released in October 2005. It'll be a collection of short stories recounting more than 40 memorable beer related experiences I've had throughout America and beyond. After digging through my archives, travel notes and interviewing and visiting current day brewers, veteran and new, I have confirmed what I've always known: the core of microbrewing, pub brewing, craft brewing and great beer in America is homebrewing. Rare is the American craft brewery that does not reflect fondly on the homebrew experiences that inspired its endeavors. Not one, not two, not a handful, but hundreds of professional brewers in America have told me they wake up every work day of their lives so very thankful that they are a brewer. They look forward to going to work and making beer. Beyond beer they are even more thankful they are doing something thousands of people enjoy. They love their jobs.

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version both in my forthcoming book and in a preview with this article. The spectacular part of this story is that 68 days after my visit, Jeff Bagby won a gold medal in the Imperial/Double Red Ale category at the 2004 Great American Beer

Festival with Hop Whompus. I visited his table at the festival several times, not knowing that the judges had awarded him top honors until he came on stage to receive his medal.

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

Charlie Papazian is founding president of the American Homebrewers Association.



Jeff Bagby's Hop Whompus 2004 (Homebrew Adaptation)

All-Grain Recipe

Ingredients

Recipe for 5 U.S. gallons (19 L)

Note: You will need a 10-gallon kettle, 10-gallon-size mash tun with screen, an additional 10-gallon vessel and a counter-flow type wort chiller for this recipe. If you are brewing on a simpler system adapt the hop additions to suit your system.

12.5 lb	(5.7 kg) two-row pale malt
1.5 lb	(680 g) crystal malt (75L)
8.0 oz	(225 g) crystal malt (120L)
2.0 oz	(56 g) Liberty whole hops 4.5% alpha, mash hops
0.75 oz	(21 g) Centennial whole hops 7.5% alpha, mash hops
1.75 oz	(49 g) Liberty hop pellets 5% alpha, first wort hopping
1.0 oz	(28 g) Centennial hop pellets 9% alpha, 120 minute boiling
0.5 oz	(14 g) Simcoe hop pellets 12% alpha, 120 minute boiling
1.0 oz	(28 g) Amarillo hop pellets 8% alpha, 60 minute boiling
1.0 oz	(28 g) Amarillo hop pellets 8% alpha, steeping hops
3.5 oz	(98 g) Amarillo whole hops 8% alpha, post boil hop-back
2.75 oz	(77 g) Centennial whole hops 7.7% alpha, post boil hop-back
1.0 oz	(28 g) Amarillo whole hops 4.5% alpha, post boil hop-back
0.66 oz	(18 g) Liberty hop pellets, secondary fermenter
0.66 oz	(18 g) Centennial hop pellets, secondary fermenter
0.66 oz	(18 g) Amarillo hop pellets, secondary fermenter
0.5 oz	(14 g) Simcoe hop pellets, secondary fermenter
0.5 oz	(14 g) Liberty whole hops, keg hops (optional)
0.66 oz	(18 g) Centennial whole hops, keg hops (optional)
0.66 oz	(9 g) Simcoe whole hops, keg hops (optional)
1.75 oz	(49 g) Liberty whole hops, keg hops (optional)
0.25 tsp	(1 g) powdered Irish moss
	Wyeast Irish Ale #1084 or White Labs English Ale
	WLP007 or California Ale WLP001
0.75 cup	(175 ml measure) corn sugar (priming bottles)
or 0.33 cup	(80 ml) corn sugar for kegging

Target Original Gravity: 1.088 (21 B)

Approximate Final Gravity: 1.020 (5 B)

IBUs: mathematically off the charts, but probably 90+

Approximate color: 18 SRM (36 EBC), red

Alcohol: 9% by volume

Directions

A step infusion mash is employed to mash the grains with the mash hops. Add 14.5 quarts (13.75 liters) of 140° F (60° C) water to the crushed grain, stir, stabilize and hold the temperature at 132° F (53° C) for 30 minutes. Add 7 quarts (6.2 L) boiling water; bring temperature up to 155° F (68° C) and hold for about 30 minutes. Add first wort hops to an empty and clean brew kettle. Raise temperature of mash to 167° F (75° C), lauter (recirculate runoff until liquid is reasonably clear before adding to brew kettle) and sparge with 3.5 to 4 gallons (13.5 to 15 liters) of 170° F (77° C) water. Collect about 7.5 gallons (28.5 L) of runoff. Add 120-minute hops and bring to a full and vigorous boil.

The total boil time will be 120 minutes. When 60 minutes remain add the 60-minute hops. When 10 minutes remain add the Irish moss. After a total wort boil of 120 minutes turn off the heat and add steeping hops.

Now add post boil hop-back hops on top of clean and sanitized screen in lauter tun. Pass the hot wort through this bed of hops and through counter-flow wort chiller and into sanitized fermenter. Sparge hops if necessary to bring total volume to 5 gallons (19 liters). Aerate the wort. Pitch the yeast when temperature of wort is about 70° F (21° C). Ferment at about 70° F (21° C) for about one week or when fermentation shows signs of calm and stopping. Rack from your primary to a secondary and add secondary fermenter hops. Continue secondary fermentation at 70° F (21° C) for four to five days. If you have the capability begin cellaring the beer by dropping the temperature 10° F (about 6° C) per day until temperature is down to 36° F (2° C). Cellar at this temperature for seven to 10 days.

Prime with sugar and bottle. If kegging you may add optional keg hops by placing them into a sanitized hop bag (nylon stockings work well) and then into your keg. Prime and let naturally carbonate at 70° F (21° C) for three to five days or until carbonated.

What can one say but "Hop Whompus" and thank you Jeff Bagby.

Jeff Bagby's Hop Whompus 2004 (Homebrew Adaptation)

Malt Extract Recipe

Ingredients

- | | | |
|----------------|--|---|
| 10.5 lb | (4.8 kg) light malt extract syrup
or 8.4 lb. (3.8 kg) light dried malt
extract | 0.66 oz (18 g) Liberty hop pellets, sec-
ondary fermenter |
| 1.5 lb | (680 g) crystal malt (75L) | 0.66 oz (18 g) Centennial hop pellets, sec-
ondary fermenter |
| 8.0 oz | (225 g) crystal malt (120L) | 0.66 oz (18 g) Amarillo hop pellets, sec-
ondary fermenter |
| 2.0 oz | (56 g) Liberty whole hops 4.5%
alpha, mash hops | 0.5 oz (14 g) Simcoe hop pellets, sec-
ondary fermenter |
| 0.75 oz | (21 g) Centennial whole hops
7.5% alpha, mash hops | 0.5 oz (14 g) Liberty whole hops, keg
hops |
| 1.75 oz | (49 g) Liberty hop pellets 5%
alpha, first wort hopping | 0.66 oz (18 g) Centennial whole hops, keg
hops |
| 1.0 oz | (28 g) Centennial hop pellets 9%
alpha, 120 minutes boiling | 0.33 oz (9 g) Simcoe whole hops, keg
hops |
| 0.5 oz | (14 g) Simcoe hop pellets 12%
alpha, 120 minute boiling | 1.75 oz (49 g) Liberty whole hops, keg
hops |
| 1.0 oz | (28 g) Amarillo hop pellets 8%
alpha, 60 minute boiling | 0.25 tsp (1 g) powdered Irish moss
Wyeast Irish Ale #1084 or White
Labs Dry English Ale WLP007 or
California Ale WLP001 |
| 3.5 oz | (98 g) Amarillo whole hops 8%
alpha, steeping hops | 0.75 cup (175 ml measure) corn sugar
(priming bottles) or 0.33 cup (80
ml) corn sugar for kegging |
| 2.75 oz | (77 g) Centennial whole hops
7.7% alpha, steeping hops | |
| 1.0 oz | (28 g) Amarillo whole hops 4.5%
alpha, steeping hops | |

Directions

Place crushed grains and mash hops in 2.5 gallons (9.5 liters) of 150° F (68° C) water and let steep for 30 minutes. Strain out (and rinse with 3 quarts or 3 liters of hot water) and discard the crushed grains reserving the approximately 3 gallons (11.5 liters) of liquid to which you will now add malt extract, first wort hops and 120-minute hops. Bring to a boil.

The total boil time will be 120 minutes. When 60 minutes remain add the 60-minute hops. When 10 minutes remain add the Irish moss. After a total wort boil of 120 minutes turn off the heat and add steeping hops. Immerse the covered pot of wort in a cold water bath and let sit for 30 minutes or the time it takes to have a couple of homebrews.

Strain out and sparge hops and direct the hot wort into a sanitized fermenter to which 2 gallons (7.6 liters) of cold water has been added. If necessary add cold water to achieve a 5-gallon (19-liter) batch size.

Aerate the wort. Pitch the yeast when temperature of wort is about 70° F (21° C). Ferment at about 70° F (21° C) for about one week or when fermentation shows signs of calm and stopping. Rack from your primary to a secondary and add secondary fermenter hops. Continue secondary fermentation at 70° F (21° C) for four to five days more. If you have the capability begin cellaring the beer by dropping the temperature 10° F (about 6° C) per day until the temperature is down to 36° F (2° C). Cellar at this temperature for seven to 10 days.

Prime with sugar and bottle. If kegging you may add optional keg hops by placing them into a sanitized hop bag (nylon stockings work well) and then into your keg. Prime and let naturally carbonate at 70° F (21° C) for three to five days or until carbonated.

Say it again: "Hop Whompus" and thank you Jeff Bagby.

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by Amahl Turczyn Scheppach

Dixie Cup

Editor's note: With this issue of Winners Circle, we shift gears and change the focus of the column. From now on, instead of highlighting recipes from the National Homebrew Competition only, we will feature best-of-show recipes from some of the other major competitions throughout the country.

They say everything's bigger in Texas and when it comes to homebrew competitions they just might be right. The Foam Rangers of Houston have been putting on the Dixie Cup competition and conference so long that this year it was old enough to drink legally.



The Foam Rangers chose a Vegas theme for the 21st annual shindig this past October 14-16, and—as usual—pulled out all the stops with three days of education, entertainment, food, beer and, mostly, fun.

The event draws hundreds of beer lovers from throughout the region and a long list of industry luminaries and speakers. A highlight after judging is completed each year is a tasting event hosted by noted beer writer and Foam Rangers “mascot” Fred Eckhardt, who appears on the official Dixie Cup T-shirt.

The competition itself has grown into the largest single-site competition in the world with 1,138 beers judged.

The best-of-show winner this year was John Donaldson of the Kuykendahl Gran Brewers club of Houston with his Premium American Lager. Donaldson also took a first place for his doppelbock and a third with his Oktoberfest.

“The competition has gotten so big and the entries so good, it’s difficult to win any rib-

bons now,” said Donaldson, who has been brewing for about 15 years. “In the old days, once you reached a certain level of competency, it was easy to win a few ribbons here and there. Now it’s really tough.”

Donaldson’s winning beer nearly didn’t make it to the competition. “We didn’t brew it until September 14. It was kind of an afterthought,” he said. “I just wanted to get one more entry in. I’m glad I did.” ☑

Comrade John & Tim's American Light

All-Grain Recipe

Category 1C Premium American Light Lager

2004 Dixie Cup—Best of Show

John Donaldson and Tim White, Houston, Texas, Kuykendahl Gran Brewers

Ingredients

for 10 gallons (37.8 liters)

9.0 lb	(4.08 kg) German Pilsener Malt 5° L
5.0 lb	(2.26 kg) Belgian Pilsener Malt 3° L
1.5 lb	(0.68 kg) rice flakes
2.0 lb	(0.90 kg) maize flakes
0.5 oz	(14 g) pellet U.K. First Gold, 7.5% alpha acid (50 min)
0.5 oz	(14 g) pellet U.K. First Gold 7.5% alpha acid (40 min)
0.5 oz	(14 g) plug English Kent Goldings, 5.6% alpha acid (30 min)
0.5 oz	(14 g) plug English Kent Goldings, 5.6% alpha acid (20 min)
1.0 oz	(28 g) whole Mount Hood, 5.1% alpha acid (15 min)
0.3 oz	(8.50 g) pellet Hallertauer, 3.3% alpha acid (5 min) Wyeast # 2007(Pilsen Lager Yeast) with 2 quart starter (2 cups light DME)
16.0 gallons	very soft water (1/2 distilled and 1/2 preboiled tap)
1.0 tsp	Irish Moss 30 minutes before end of boil
1.0 tsp	gypsum
0.5 tsp	calcium chloride
30 drops	phosphoric acid

Boiling time: 75 min

Primary Fermentation: 53° F (12° C) for 7 days

Secondary Fermentation: 53° F (12° C) for 14 days

Kegged, force carbonated, and counter pressure bottle filled.

Directions

Collected 10 gallons pre-boiled tap water. Remaining balance of water used was bottled distilled. Simple step infusion mash 153° F (67° C) to 158° F (70° C) over 90 minutes. Mash pH corrected to 5.3 with mineral salts and phosphoric acid. Sparge 70 minutes corrected to pH 5.7.



CALENDAR

For complete homebrew event listings, see www.beertown.org/homebrewing/events.asp.



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January 7

5th Annual Big Beers, Belgians & Barleywines Homebrew Competition. Vail, CO. AHA/BJCP SCP. Fee: \$5. Contact: Laura Lodge, Phone: 970-949-0600, Fax: 970-476-6976, E-mail: BigBeersFestival@hotmail.com Web: www.BigBeersFestival.com

January 14–16

Spirit of Belgium 2005. Arlington, VA. Sheraton National Hotel. Sponsored by BURP. E-mail: sobinfo@burp.org Web: www.burp.org/events/sob/2005/

January 15

Doug King Memorial Lager and Specialty Beer. Woodland Hills, CA. AHA/BJCP SCP. Sponsor: Maltose Falcons. Fee: \$5. Contact: Steve Cook, Phone: 818-563-5211, E-mail: SCook4208@msn.com Web: www.maltosefalcons.com

January 27–29

Upper Mississippi Mash-Out. Minneapolis-St. Paul, MN. AHA/BJCP SCP. Sponsoring Club: Minnesota Homebrewers Association. Entry Deadline: 1/03–1/15. Fee: \$6 w/ online entry, \$7 w/ paper entry. Contact: Steve Fletty, Phone: 612-625-1048, E-mail: fletty@umn.edu Web: www.mnbrewers.com/mashout

January 29

Meadlennium 2005. Orlando, FL. AHA/BJCP SCP. Fee: \$6. Contact: Mike Urban, Phone: 407-531-1234 x 7043, E-mail: mead@cfrhb.org Web: www.cfrhb.org

February 18–19

Kansas City Bier Meisters 22nd Annual Homebrew Competition Kansas City, KS Entries Deadline: 1/15 - 2/5, Contact: Robin Beck, Phone: 816-453-2987, E-mail: 3rbecks@sbcglobal.net, Web: www.kcbiermeisters.org, Fee: \$6.50 for 1-6 entries, \$5.50 per entry for 7-plus.

February 19

12th Annual Peach State Brew Off. Atlanta, GA. AHA/BJCP SCP. Part of the Mid-South Homebrew Series. Fee: \$6. Contact: Joe Gramig, Phone: 770-919-2002, Fax: 770-472-2198, E-mail: CovertHops@yahoo.com Web: www.coverthops.com

February 19

FebFest 2005 Homebrew Competition. Libertyville, IL. AHA/BJCP SCP. Sponsor: Brewers of Bluff. Host: Mickey Finn's Brewery. Fee: \$6, 5 or more \$5. Contact: James Abrahamson, Phone: 847-249-8738, E-mail: abrahamsonj@yahoo.com Web: www.clubbob.org

February 19–20

Best Florida Beer Competition at the Florida State Fair. Tampa, FL. AHA/BJCP SCP. Open to all homebrewers in Florida or those affiliated with a Florida homebrew club. Contact: Jeff Gladish, Phone: 813-874-0937, E-mail: jeffngladish@ij.net

February 26

2nd Annual BABBLE Brew-Off. Mundelein, IL. AHA/BJCP SCP. Contact: Bruce W. Dir, Phone: 847-566-8012, E-mail: thedirs@comcast.net Web: www.hbd.org/babble/

February 27

Washoe Zephyr Zymurgists Homebrew Competition. Reno, NV. AHA/BJCP SCP. 2004 BJCP Style Guidelines. Fee: \$6 first/\$4 add. Contact: John C. Tull, Phone: 775-329-2537, Fax: 775-329-8124, E-mail: jctull@gmail.com Web: www.washoezz.net/

March 4–5

America's Finest City Homebrew Contest. Chula Vista, CA. AHA/BJCP SCP. Online entry begins: 1/3. Entry Deadline: 2/3–2/23. Fee: \$6. Contact: Chad Stevens, Phone: 619-656-6887, Fax: 619-613-3189, E-mail: zuvaruvi@cox.net Web: www.quaff.org

March 5

Reggae and Dredhop 2005. Denver, CO. AHA/BJCP SCP. Sponsoring Club: Hop Barley and the Alers. Falling Rock Tap House. 2004 BJCP Guidelines. Contact: Bob Kauffman. E-mail: acme-brew@juno.com Web: www.hopbarley.org/

March 6

2005 St. Patrick's Cascadia Cup. Redmond, WA. AHA/BJCP SCP. Fee: \$6. Contact: Alan Hord, Phone: 425-707-8062, E-mail: CCOrganizer@CascadeBrewersGuild.Org Web: www.CascadeBrewersGuild.Org

March 12

10th Annual Kona Brewers Festival Homebrew. Kailua-Kona, HI. AHA/BJCP SCP. All BJCP categories. Fee: \$5. Contact: Rocket Rod Romanak, Phone: 808-325-7449, E-mail: rod@rocketsuds.com Web: geocities.com/konabrewfest

March 12

9th Annual Big Bend Brew Off 2005. Tallahassee, FL. AHA/BJCP SCP. BJCP categories accepted. Fee: \$6. Contact: Joel Tedder, Phone: 850-309-7825, Fax: 850-656-3527, E-mail: jandw1112@aol.com Web: www.nfbl.org

March 12

Urban Knaves of Grain: Drunk Monk Challenge. Aurora, IL. AHA/BJCP SCP. Qualifying event for the Masters Championship of Amateur Brewing. The first leg of The Midwest Homebrewer of the Year. Awards Ceremony: 3/12. Fee: \$5 online, \$7 paper, \$3/ Menace of the Monastery. Contact: Rodney Kibzey, E-mail: rjkchicago@aol.com, djproksa@netzero.com, Web: www.knaves.org/dmc/

March 19

2005 Bluebonnet Brewoff. Irving, TX. AHA/BJCP SCP. Early entries Feb. 10–18. Late entries Feb. 25. Clarion Hotel. 38 categories. Check Web page for style guidelines. Fee: \$7. Contact: Richard Dobson, Phone: 940-665-3269, E-mail: hogvn@cooke.net Web: www.bluebonnetbrewoff.com

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The Bitter Truth about Isomerization

By Chris Bible

Beer is an extremely complex drink. Several hundred different chemical compounds have been identified within a typical beer. Of these compounds, none are dearer to "hop heads" around the world than the compounds derived from hop additions during the brewing process, which are vital to the organoleptic qualities of beer.

Hops play several roles in the production of beer¹, but in particular they are crucial as a source of aroma (from the essential oils) and bitterness (from the hop resins). Some of the more important compounds associated with hop aroma are shown in Figure 1.

Although the flavor chemistry associated with hop oils and hop polyphenols is rather intricate, the chemistry of the compounds associated with the bitter-taste features of beer is well understood. The most important compounds associated with hop-derived bitterness are the α -acids. In a pure state, the hop α -acids are weak acids that occur as pale-yellowish solids. The α -acids, as they occur naturally within hops, exhibit very poor solubility in water and have almost no bitter taste. Alpha-acids can account for between 2 and 15 percent of the dry weight of the hop, depending upon the specific hop variety and the hop storage environment. The higher the α -acid content, the greater the bitterness potential of the hop.

There are three different α -acids in hops. These α -acids are molecularly similar, but differ from one another in their side-chain

structure. When energy is applied to these molecules during the boiling of the wort, the α -acid molecules sort of "open up." They are isomerized to form iso- α -acids. The iso- α -acids are much more soluble and bitter than the α -acids. The isomerization reaction within the boil is not very efficient. Generally, no more than 50 percent of the α -acids are isomerized within a typical boil and less than 25 percent of the original bitterness potential actually makes it into the beer. Wort original gravity (O.G.) plays a role regarding how much of the original bitterness potential actually makes it into the wort². In general,

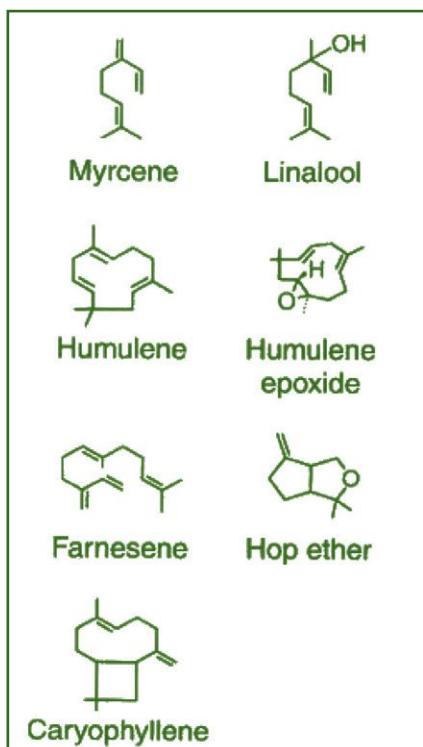
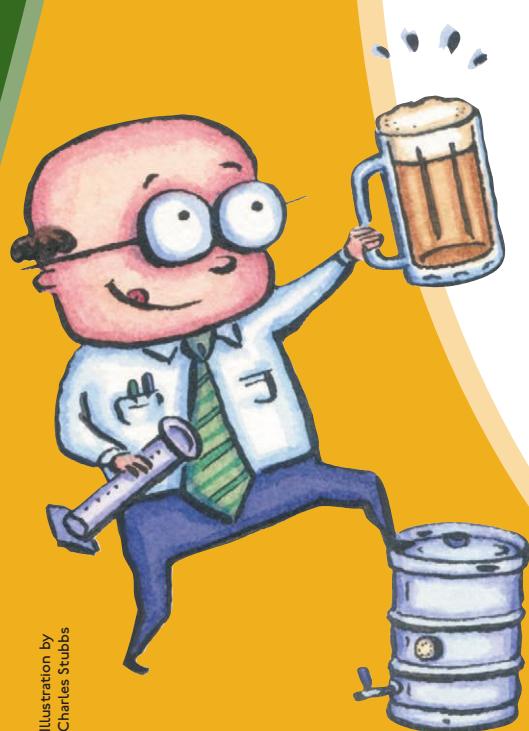


Figure 1: Some Aroma Compounds from hops



Effect of O.G. on α -acid Utilization

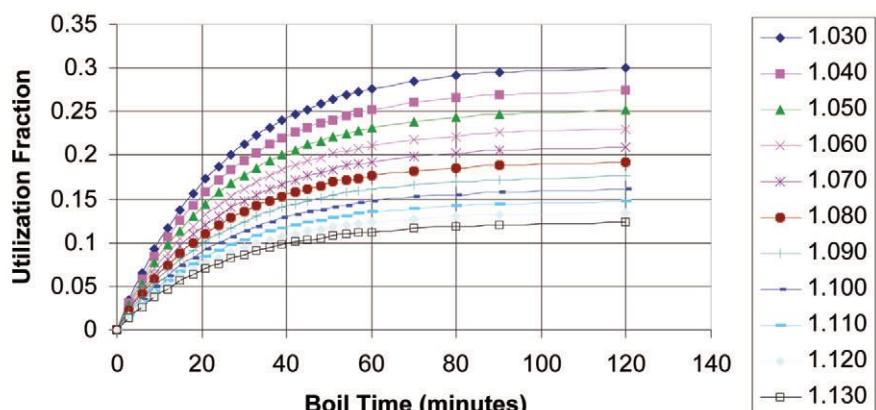


Figure 2: Effect of O.G. on α -acid Utilization

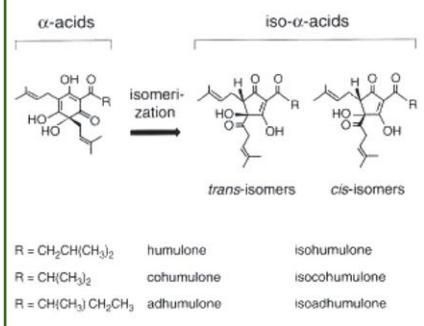


Figure 3: α -acids and Iso- α -acid Bittering Compounds

al, a higher wort O.G. means that fewer of the α -acids will be extracted from the hop and into the wort and will therefore not contribute to bitterness. Figure 2 illustrates this.

Each iso- α -acid exists in two forms, cis and trans, which differ in the orientation of the side chains (the “-R” groups shown in Figure 3) relative to the rest of the components within the molecule. The six iso- α -acids differ in the quality and intensity of their bitterness. It is generally felt that the better hops have a lower level of cohumulone, giving lower levels of the iso- α -acids derived from this material³. The isomerization reaction of these three α -acids to iso- α -acids is shown in Figure 3.

The transformations of the humulones during wort boiling have been studied in great detail.⁴ The relative ratio of the iso-humulone cis/trans isomers formed during the boil depends on the specific reaction conditions within the boil. The typical ratio of isomers that is formed during the boil is normally approximately 68:32 in favor of the cis-compounds. The cis-compounds are much more stable (half-life ~ 5 years) than the trans-isomers (half-life ~1 year). Over time, this change in the relative ratio of the cis/trans isomers that are present within the beer can have significant consequences on the taste and flavor stability of the beer. It is generally preferred to have the highest possible content of cis-isohumulones within the mixture of isohumulones.

The iso- α -acids are intensely bitter. The threshold value in water has been estimated at 6 parts per million (ppm)⁴. The concentrations of iso- α -acids within

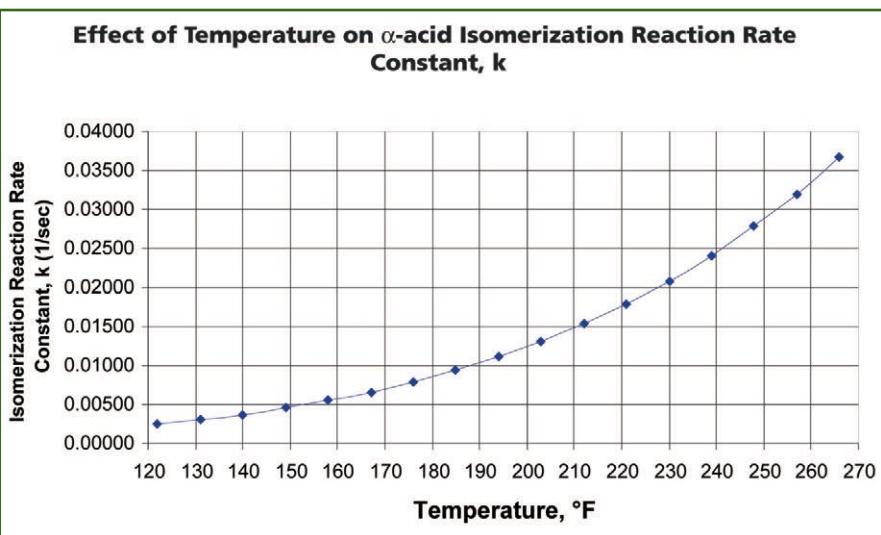


Figure 4: Effect of Temperature on α -acid Isomerization Reaction Rate Constant, k

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beers vary widely among beer styles. A concentration of approximately 15 ppm is typical in American lager beers. An iso- α -acid concentration of 100 ppm could be considered typical in a very bitter English ale. The actual perception of bitterness during the consumption of the beer is influenced by complexation of the iso- α -acids with residual sugars and other flavor components that are present within the beer.

In order to convert the α -acids extracted from hops into iso- α -acids, it is necessary to carry out an isomerization reaction on the α -acid. An isomerization reaction is a chemical reaction in which the functional groups contained within an organic molecule undergo a rearrangement within the molecule.

As with most chemical reactions, the rate at which this isomerization reaction occurs is dependent upon temperature and pH. A characterization of this reaction rate has been performed⁵. The referenced source has examined hop α -acid isomerization kinetics at a buffered

pH of 5.2 over a broad range of temperatures.

The rate of at which an isomerization reaction occurs can be modeled⁶ as a 1st-order reaction with the following equation:

$$-\dot{r}_{\alpha\text{-acid}} = k[\alpha\text{-acid}]^n$$

Where:

$-\dot{r}_{\alpha\text{-acid}}$ = rate of conversion of α -acid to iso- α -acid (moles/liter-sec)

k = an experimentally determined⁵, temperature-dependent constant that is specific to the reaction in question (0.0153 1/sec at 212° F)

[α -acid] = concentration of α -acid within

Effect of Temperature on the Rate of Isomerization of α -acid to Iso- α -acid

$$y = 5E-06e^{0.0315x}$$

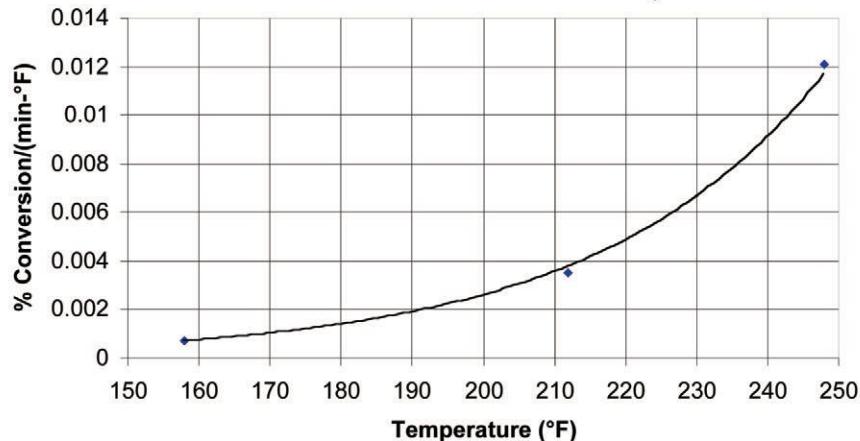


Figure 5: Effect of Temperature on the Rate of Isomerization of α -acid to Iso- α -acid

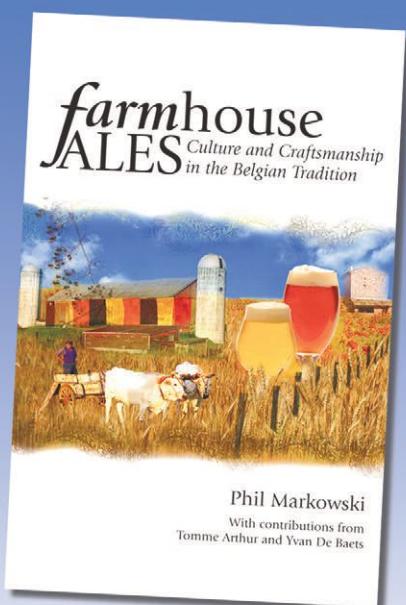
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the wort (moles/liter)

n = a constant specific to the reaction in question ($n = 1$ for this "1st-order" isomerization reaction)

The reaction rate constant, k , is affected by reaction temperature⁷. The effect of temperature on this parameter can be modeled with the following equation:

$$k = Ae^{(-E/RT)}$$

Where:

k = reaction rate constant at temperature, T (1/sec)

A = "pre-exponential" factor, an empirically derived parameter, (1/sec)

e = the base of natural logarithms (~2.71828...)

E = activation energy⁵ for the isomerization reaction (36.375 kJ/mole)

R = universal ideal gas constant (8.314 J/mole-K)

T = absolute temperature (K)

Using the data from the referenced source⁵, the value of the "pre-exponential factor," A , can be determined. Using $E = 36.375$ kJ/mole (or, equivalently, 36375

J/mole), $k = 0.0153$ 1/sec at $T = 212^\circ F$ (373K), and $R = 8.314$ J/mole-K, we can rearrange the equation above:

$$\ln k = \ln A - \frac{E}{R} \left(\frac{1}{T} \right)$$

and substitute these values into the rearranged equation in order to determine the value of A :

$$\ln(0.0153) - \ln A - \frac{36375}{8.314} \left(\frac{1}{373} \right)$$

Solving the above for A gives $A = 1901$. Now that we know the value of A , it is possible to determine the effects of temperature on the isomerization reaction rate constant, k . A plot showing the exponential effect of temperature on the reaction rate constant, k , is shown in Figure 4.

The referenced source⁵ determined that at $70^\circ C$ (343K or $158^\circ F$), less than 10 percent of α -acids were converted to iso- α -acids during a 90-minute boil. At $120^\circ C$ (393K or $248^\circ F$), only 30 minutes were required for 90 percent conversion of α -acids to iso- α -acids. A plot showing the experimentally determined effect of temperature on the rate of α -acid isomerization is shown in Figure 5.

A plot showing the amount of time required to achieve a specific amount of isomerization of α -acids to iso- α -acids during the boil (assuming that the boiling point of wort is $212^\circ F$) is shown in Figure 6.

It is important to keep in mind that the experimental data⁵ that was used for all of the above calculations was derived from a laboratory scale system that consisted of purified α -acid extract in water; the research was not carried out in a wort solution. In an actual wort solution, the α -acid isomerization reaction rate will likely be different than the rate that was determined in the laboratory setting.

Conclusions:

1. Increasing wort O.G. decreases the effectiveness of the extraction of α -acids into the wort.
2. The isomerization reaction for the conversion of α -acids to iso- α -acids can be modeled by a 1st order reaction rate equation.

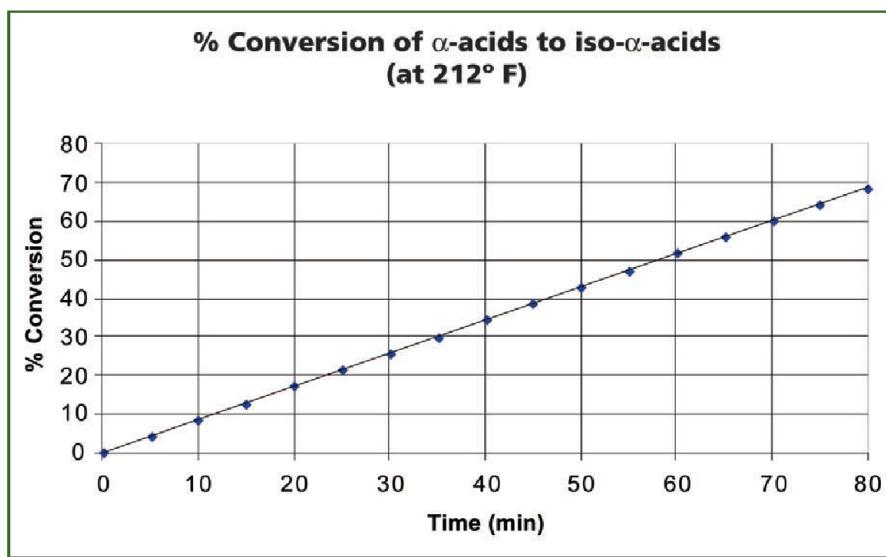


Figure 6: % Conversion of α -acids to iso- α -acids at $212^\circ F$

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3. The rate of isomerization of α -acids to iso- α -acids is strongly temperature dependent. Higher reaction temperatures result in a greater rate of isomerization of the α -acids to iso- α -acids. Higher temperatures lead to a more complete utilization-per-unit-time of the bittering compound precursors (α -acids) that are extracted from the hop during the boil.
4. The isomerization reaction is not fast. A significant amount of time at normal boiling temperature is required in order to achieve significant conversion of α -acids to iso- α -acids.

So what can we do with this information? Well, if you were a large, commercial brewery trying to reduce energy costs and increase output, you might consider exploring the potential benefits of using an increased-temperature (high-pressure), reduced-time boil (have you ever considered carrying out your wort boil in a pressure vessel?). Also, perhaps the more detail-oriented homebrewers among us can use this understanding of isomerization kinetics to improve the accuracy of hopping rate calculations. This understanding could help to more accurately achieve target concentrations of bitter compounds in wort by allowing the brewer to compensate for boiling-vessel temperature variation during heat-up and cool-down. Lastly, and certainly most importantly, we can use this information to simply deepen our appreciation of the contributions that have been made by science to help us all brew better beer.

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Chris Bible is a chemical engineer (B.S., M.S.) currently working as the engineering and quality manager for J.M. Huber Corporation's Etowah, Tenn. facility. He lives in Knoxville with his wife and son and has been homebrew-

ing for five years. Chris especially enjoys making and drinking stouts and porters.



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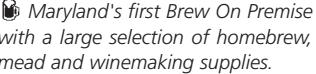
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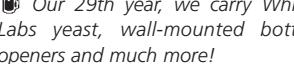
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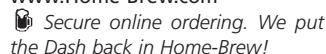
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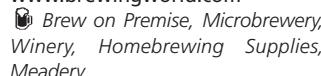


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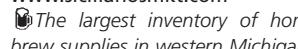
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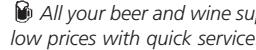
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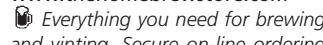
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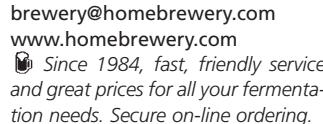
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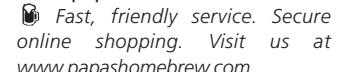
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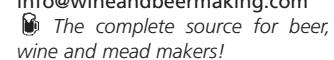
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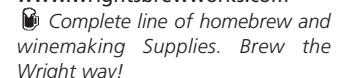
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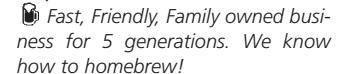
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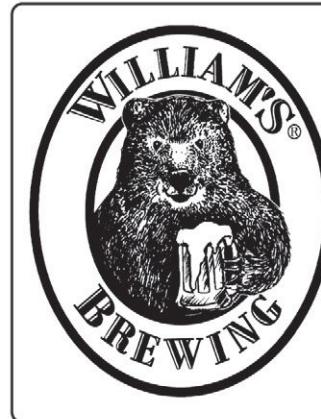
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Brewing Beer on the Orchid Isle

Hawaii isn't exactly known for beer. It inspires with visions of sipping cool mai-tais from coconut shells while lying in a hammock as the Pacific Ocean washes up on the shores of a sandy white (or black) beach. There certainly is some merit to playing tourist, on occasion, but one can only go without a beer for so long. Palm trees aside, getting to know the homebrewers who call Hawaii home was really what convinced me to return every year.

If necessity is the mother of invention, then homebrewing was destined to happen on the Hawaiian Islands. Commercial breweries and brewpubs have found the environment as challenging as swimming from Maui to Molokai, only a few recently finding any real success. You don't build much beer culture around Diamond Head Dry, even if it was a GABF award-winner in 1989. But if you can't find a good beer, you learn to make your own.

The legendary climate and location often synonymous with paradise provides challenges few other brewers have to face. Roughly 12 hours of daily sun and temperatures generally not straying more than 20 degrees throughout the year is simply not the ideal environment for a couple of our favorite plants. While coffee and macadamia nuts have no growing season, grain and hops simply won't grow on the slopes of Mauna Loa.

If you think you have high shipping costs, you should try being surrounded by roughly 2,000 miles of salt water. One commercial brewery finds it cheaper to contract bottles on the mainland than to ship over the empties for a local fill. After the terrorist attacks of September 11, the local homebrew shops found that the reason their yeast suddenly wasn't viable was due to packages being irradiated on the West



Coast. And if you are considering a 50-pound sack of grain as a carry-on, forget it.

If getting the ingredients is difficult, just how do you gain style knowledge when you live on an island? It's amazing how few European importers want to bring beers to the other side of the planet—and if you lived in paradise you might not make the reverse journey either. I still remember the first weizenbock I entered in the annual homebrew competition in Kailua-Kona that came back with the comment, "Not enough concentrated wheat flavor." Or when a judge on another panel asked me what I thought of his current beer and it turned out to be my own Berliner weisse. That was a number of years ago. This past year a smoked porter won best-of-show.

Unless you fell into a lava flow you've undoubtedly heard that Kona Coast Barley Boy "Rocket" Rod Romanak was the Homebrewer of the Year for 2004, a distinction made even sexier by the place he lives. If you've ever met Rod—and many of you have—you know that it's hard to imagine someone more deserving. Romanak has been to every AHA National Homebrewers

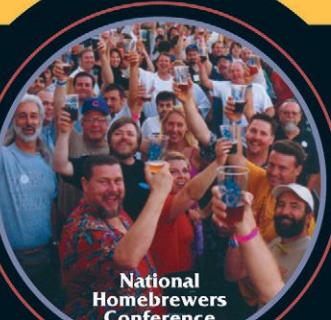
Conference, which he says has greatly improved his brewing and judging skills.

I'd say he is the epitome of the Hawaiian brewer but I'm not certain just how the rest of my friends would react to that statement. Who of us wouldn't consider owning a coffee plantation on a tropical island with your very own brewery housed in a water tank straight out of Petticoat Junction? Or perhaps you might want to run a homebrew shop when you're not taking snaps of an active volcano from your friend's helicopter? How about being the caretaker of the 30 or so irreplaceable segments of the lens of a massive telescope in an observatory over 14,000 feet above sea level? If you think a couple of barley-wines makes you feel lightheaded...

There is something utterly unique about judging homebrew on a lanai (porch) several thousand feet above sea level while below an old lava flow drops lazily into the ocean as it has for nearly 100 years. You can't help but feel the dedication of a man to his beer (and mead) when the only air-conditioned room in his house is used for fermentation. Tying it all together, three clubs call Hawaii home and frequently meet to swap stories and talk beer. Brewing, judging and meeting with your friends—perhaps Hawaii isn't so different from the mainland after all.

Jeff Sparrow finds time once a year to go the opposite way from Belgium and visit and judge with his friends on the Big Island of Hawaii, who seldom refer to him anymore as "haole." The 10th annual Kailua-Kona Homebrew Competition is March 10-11. Contact the First Lady of Homebrew, Cheryl Romanak, at rocketsuds@hawaii.rr.com for details. Rod can brew a mean beer but still can't use a computer!

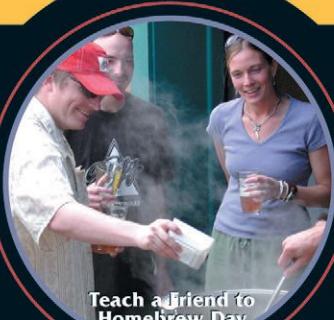
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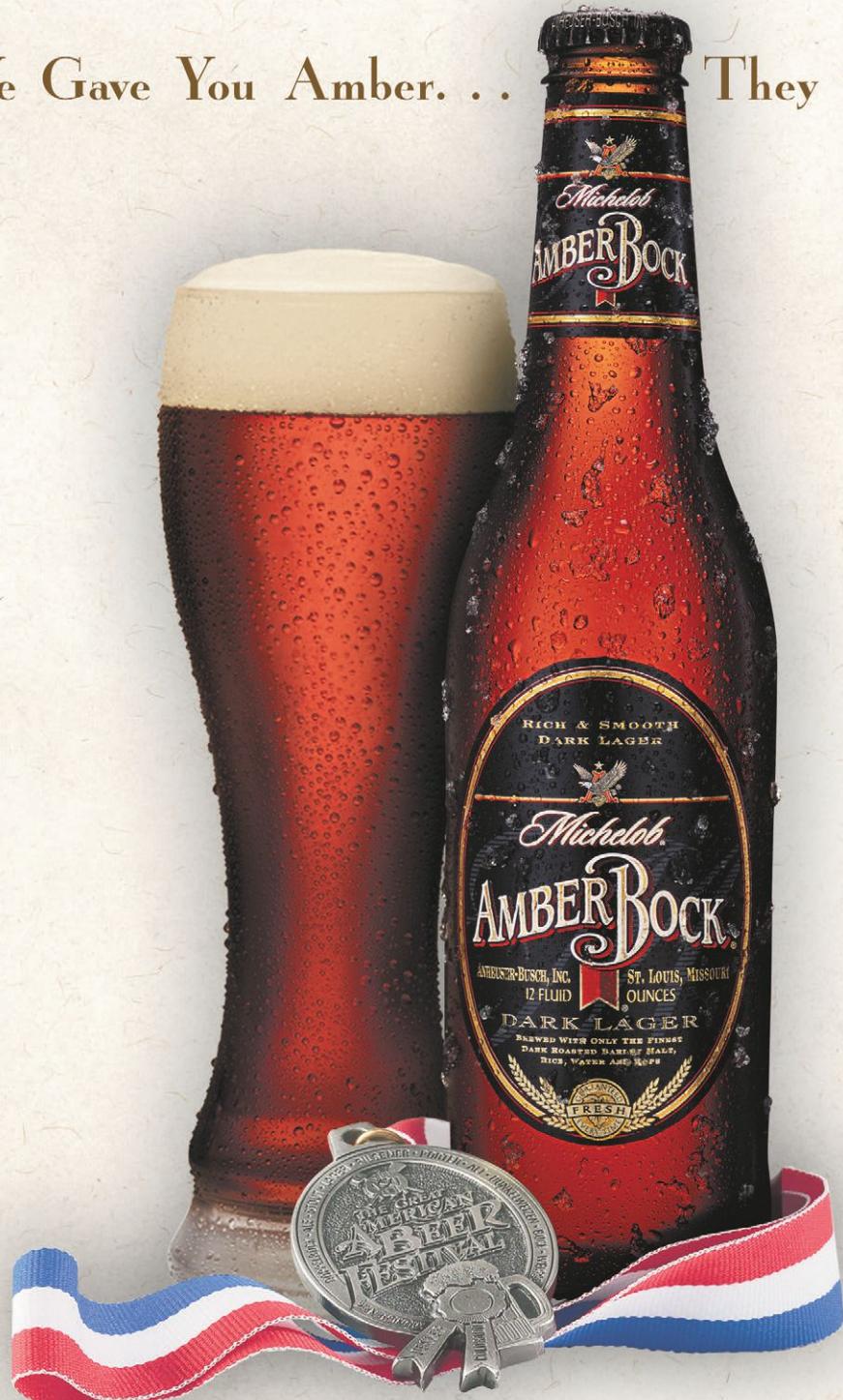
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