

FOR THE HOMEBREWER & BEER LOVER

Volume 29 * No. 1 | January/February 2006

zymurgy

■ The Journal of the American Homebrewers Association ■

This Beer Rocks



The Joys
of Low-Tech Brewing

In this issue:

10 BEERS
YOU
CAN
BREW

Rock your
world
with stone beers

BIG
BREWS
over an open fire

Brewing
by the seat
of your pants

PLUS: *T'ej: Ethiopia's imperial mead*



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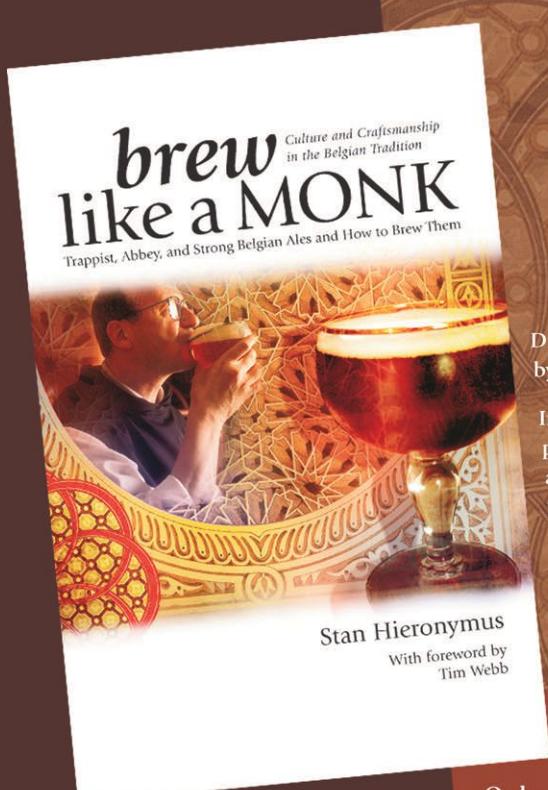
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Old-School Brewing

Let's face it, most homebrewers aren't just beer geeks, they're gear geeks.

If I had a nickel for every homebrewer I have talked to in 18 years of brewing and writing about beer that has said "Half the fun for me is adding new gadgets to my system," well, I could build myself one helluva system.

From sophisticated systems for controlling and altering mash temperatures to commercial-grade equipment to keep fermentation temperatures just so, we love finding new ways to control every variable possible in our quest for the perfect pint.

But every now and then, brewers yearn to shake free of the shackles of technology and revert back to simpler times. Naked brewing, I like to call it. No need for a thermometer; use the "rule of thumb" like brewers in olden days. Stash that 360,000 BTU propane burner and brew over an open fire. Or better yet, boil your wort with red-hot rocks. Who needs a hydrometer? You can taste the sugar in your wort. And temperature-controlled conical fermenters? Bah! That old crock will do the trick.

I'll let you in on a little secret: This issue of **Zymurgy** is not the result of some high-level planning session that sniffed out the trend toward low-tech brewing. It is the result of several serendipitous e-mails I received over the past year. First it was Ted Hausotter, writing to ask if I would be interested in a story about brewing stone beer, the ancient method of using super-heated rocks to boil wort. Sure, I said, I just didn't know what upcoming issue it would fit into.

Then Matt Jarvis sent along a story about an experiment he and some friends had conducted in brewing without the aid of modern instruments. He called it medieval

brewing. Again, a nice story, but I wasn't sure where it would fit into that year's editorial calendar.

By the time Karen Peterson sent a query about a story she was thinking of about her son's annual "brew fests" where he and an old college friend brew huge batches in cast iron kettles, it finally hit me like a hand-hewn mash paddle upside the head: Brewing old school is cool.

Having Christian McDaniel send along a report about his club's annual low-tech brewing event solidified the theme.

But if four different people from across the country were sending in unsolicited stories about low-tech brewing, there had to be others out there with similar desires to release their inner caveman and cave woman for a brew day.

Of course that doesn't mean I am advocating tossing all of your great gadgets and shiny stainless vessels. But just for fun, set them aside for a day. You might be surprised by the results.

The serendipity continued when our globetrotting correspondent, Chris O'Brien, checked in with a story from what is now his backyard—Ethiopia—about that country's national drink, t'ej.

Also this issue, Lisa Morrison reviews Charlie Papazian's latest book, *Microbrewed Adventures*. And Marty Jones checks in with a report from Great American Beer Festival 2005, including all of the medal winners.

Cheers,

Jim Parker
Editor-in-Chief



zymurgy

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By Matt Jarvis

What happens when you brew a batch of beer without the aid of a hydrometer, thermometer or even a clock? They did it in medieval times, so why not today?

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By Karen Peterson

When two old college friends get together for their annual brew day, they make it a family beer fest with games, grilling and big batches of beer brewed in cast iron kettles over an open fire.

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By Chris O'Brien

Drinking t'ej was once reserved only for royalty, but this ancient mead is now the national drink of Ethiopia. Modern t'ej reflects the diversity of Ethiopia, with many variations available in homebrewed and commercial varieties.

44 | **Travels with Charlie**

By Lisa Morrison

In his latest book, *Microbrewed Adventures*, Charlie Papazian departs from the how-tos of brewing to take readers on a world tour of some of the people and places that have shaped the craft beer renaissance.**Plus: Great American Beer Festival results on page 38!**

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>> GET THERE!

Great Alaskan Beer and Barleywine Festival

Alaska and barleywines fit together like a wool-stocked foot inside a furry mukluk. *The Anchorage Daily News* even went so far as to proclaim Alaska "the Barleywine State."

And just 10 days after the state of Alaska celebrates its 47th birthday, big-beer lovers from across the state and beyond will pack the William A. Egan Civic and Convention Center in Anchorage for the Great Alaskan Beer and Barleywine Festival. The two-day event January 13-14 boasts more than 150 beers from Alaska and the lower 48, with a focus on winter warmers and barleywines.

The event draws a who's who of brewers and beer writers from around the globe, including the Beer Hunter himself, Michael Jackson, to judge all of the big beers entered in the Great Alaskan Barleywine competition.

This year's beneficiary is the American Diabetes Association. Admission is \$25 and includes a souvenir glass, program and 30 drink tickets, each good for a 2-ounce sample.

For more information, contact Steve Shepherd at 907-562-9911 or visit www.egancenter.com.

January 6-7

Big Beers, Belgians & Barleywines Festival Vail, CO.
 Contact: Laura Lodge, Phone: 970-524-1092,
 E-mail: BigBeersFestival@hotmail.com
 Web: www.bigbeersfestival.com

January 13-14

Great Alaska Beer & Barley Wine Festival Anchorage, AK.
 E-mail: showpros@alaska.net Web: www.auroraproductions.net/beer_n_barley.html

January 21

Hop Leftoverus Challenge Dayton, OH. Contact: Eric Asebrook, E-mail: fbarickm@columbus.rr.com

January 28

Atlanta Cask Ale Tasting Atlanta, GA. Sweetwater Brewery. Web: www.ClassicCityBrew.com/acat.html

February 10-11

International Mead Festival Boulder, CO. Contact: Carolyn Pitcavage, Phone: 720-406-1215, Fax: 303-245-7001, E-mail: carolyn@redstonemeadery.com
 Web: www.meadfest.com

March 5-8

Nightclub & Bar/Beverage Retailer Beverage & Food Convention and Trade Show Las Vegas, NV. Contact: Oxford Publishing, Phone: 1-800-247-3881, Web: www.nightclub.com

March 7-10

10th China International Exhibition on Beverage, Brewery and Wine Technology Shang Hai, China. Contact: Adsale Exhibition Services Ltd, E-mail: publicity@adsale.com.hk
 Web: www.2456.com/drinktec

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



April 5

2006 Australian International Beer Awards Melbourne, Australia. Contact: Kerry James, Phone: +61 3 9914 2435, Fax: +61 3 9914 2495, E-mail: kerry.james@rasv.com.au
 Web: www.beerawards.com.au

April 11-14

Craft Brewers Conference & BrewExpo America® Seattle, WA. Contact: Jessica Lawrence, Phone: 303-447-0816 x 135, Fax: 303-447-2825, E-mail: jessica@brewersassociation.org Web: www.beertown.org

April 14-15

Spring Beer & Wine Festival Portland, OR. Phone: 541-308-6738. Web: www.springbeefest.com/

May 6

10th Annual Boonville Beer Festival Boonville, CA. Contact: Anderson Valley Brewing Company, Phone: 707-895-2337, E-mail: info@avbc.com
 Web: www.avbc.com/news/boontbeefest.html

May 31-June 4

Mondial de la Biere Montreal, Quebec. Windsor Station & Courtyard. Phone: 514-722-9640, Web: www.festivalmondialbiere.qc.ca



GREAT GADGET

WHAT'S NEW FROM BEER, BEER & MORE BEER

Sake Made Simple

Beer writer Fred Eckhardt says there is no better way to celebrate a snowfall than with a nice glass of sake. And nothing beats your own homebrewed sake. But the process, as detailed by Eckhardt in the September/October 2004 *Zymurgy*, takes 81 days and includes many steps. That's not to say you shouldn't try Eckhardt's recipe. But if you are in a hurry, the folks at Beer, Beer & More Beer have a shortcut for you. They are now importing the Sake/Doburaku Kit from Japan. These 400-gram kits, sold under the brand name Yamatodamasii (Japanese spirit) make about a quart of sake.

The kits are self-contained and include rice, koji, yeast and lactic acid. All you do is mix the pack with warm water in a growler, put on an airlock and stir once a day for two to three weeks. At that point you have doburoku or sake with rice, the earliest form of sake that was eaten like porridge. You can strain your doburoku through a grain bag for nigori or unfiltered sake. Or press it through a finer mesh bag for filtered sake.

Each kit is \$16.95, available at www.morebeer.com.



BREW NEWS: Great Pumpkin Ale



Craft brewers across the country have been making pumpkin beers as a fall seasonal for years. But this past fall at Seattle's Elysian Brewery, brewer Dick Cantwell went crazy with pumpkin beers. In addition to the pub's regular pumpkin ale, he brewed an imperial pumpkin ale, a pumpkin lager, a pumpkin hefeweizen and a pumpkin stout.

To top it all off, he conditioned a pumpkin ale inside a 100-pound pumpkin and tapped it with a traditional English firkin tap during the pub's first Pumpkin Beer Festival.

Not to be outdone, Bob Craig of Walking Man Brewery in Stevenson, Wash. conditioned his pumpkin ale inside a pumpkin and primed it with candy corn—further proof that Washington brewers really are out of their gourds.

THE LIST

10 Beer Firsts

> **January 24** marks the 71st anniversary of the first canned beer. In honor of that date and the continued growth of craft beer in a can, we offer this list of firsts in the brewing world.

> **1516**—Carlos V, Holy Emperor of Rome, becomes the world's first beer importer, gathering beers from throughout the empire. After his retirement from the throne, he keeps a Flemish brewer as part of his reduced entourage.

> **1587**—The first beer is brewed in the New World at Sir Walter Raleigh's colony in Virginia, but the colonists send requests to England for better beer.

> **1633**—Just seven years after brokering the \$24 deal for Manhattan Island with the Canarsee tribe, Peter Minuit establishes the first public brewery in America at the Market Field in lower Manhattan.

> **1830s**—Bavarians Gabriel Sedlmayr of Munich and Anton Dreher of Vienna develop the lager method of beer production.

> **1840**—The first commercial lager in America is brewed by John Wagner, who had a small brewery in the back of his house on St. John Street in Philadelphia. Wagner brought the first lager yeast to the United States from a brewery in Bavaria.

> **1842**—The first golden lager is produced by Josef Groll at Burghers' Brewery in Pilsen, Bohemia.

> **1935**—The first canned beer, Krueger's Cream Ale, is sold by Krueger Brewing Co.

> **1967**—The first true light beer, Gablinger's Diet Beer, is brewed by the Rheingold brewery. Dr. Joseph L. Owades came up with the light beer-making process used.

> **1976**—The first modern post-Prohibition craft brewery, New Albion Brewery, is founded by Jack McAuliffe in Sonoma, Calif.

> **1982**—Bert Grant opens the first post-Prohibition brewpub, Yakima Brewing and Malting Co. in Yakima, Wash.

BEER QUOTE

"I work until beer o'clock."
—Author Stephen King

>> BEER JOKE

Three Thirsty Flies

An Englishman, an Irishman and a Scotsman walk into a pub and each order a pint. As the publican sets their beers on the bar, three flies buzz in from the kitchen and each one lands atop one of the beers.

The Englishman looks at the fly atop his beer and pushes it away. "How unclean," he says. "Bring me a fresh beer."

The Irishman looks at the fly, shrugs and downs his beer, fly and all.

The Scotsman looks at the fly, picks it up by its tiny wings and yells, "Spit it out, you wee bugger! Spit it out!"



>>YOU GOTTA DRINK THIS

Best Beers in America



For the past year, we've been asking you to send in mini-reviews of your favorite commercial beers to share with your fellow beer lovers. Now it's time once again for *Zymurgy's* Best Commercial Beers in America Survey.

This is the fourth year for the survey and after two years of a pair of California brews—Sierra Nevada Pale Ale and Anchor Steam—duking it out for the top spot, Alaskan Brewing Smoked Porter snatched the crown last year. Your good taste was confirmed this past October when Alaskan Smoked Porter won its sixth gold medal at the Great American Beer Festival® (see results on page 40).

So now that the beer judges have had their say, it's time for you to weigh in on your must-drink beers.

The rules are simple: just write down a list of the 20 best beers available in the U.S. market and send it to jim@brewersassociation.org or in care of the Brewers Association, P.O. Box 1679, Boulder, CO 80306-1679 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*.

While you are compiling your list, please take a few extra minutes and write a short review, not more than 150 words, of one of the beers on that list. It doesn't have to be the top beer, just one of the 20 that you would like to state a case for giving it a try.

We will include some of these reviews in the story in the July/August issue and use others in this space throughout the year.

So ladies and gentlemen, start your palates.

BREW NEWS:
Drink Beer, Fight Cancer

A compound found only in hops and beer has rapidly gained interest as a micronutrient that might help prevent many types of cancer.

Researchers at Oregon State University first discovered the cancer-related properties of this flavonoid compound called xanthohumol about 10 years ago. A recent publication by an OSU researcher in the journal *Phytochemistry* outlines the range of findings made since then. And many other scientists in programs around the world are also beginning to look at the value of these hops flavonoids for everything from preventing prostate or colon cancer to hormone replacement therapy for women.

"Xanthohumol is one of the more significant compounds for cancer chemoprevention that we have studied," said Fred Stevens, a researcher with OSU's Linus Pauling Institute and an assistant professor of medicinal chemistry in the College of Pharmacy. "The published literature and research on its properties are just exploding at this point, and there's a great deal of interest."

Quite a bit is now known about the biological mechanism of action of this compound and the ways it may help prevent cancer or have other metabolic value. But even before most of those studies have been completed, efforts are underway to isolate and market it as a food supplement. A "health beer" with enhanced levels of the compound is already being developed.

"We can't say that drinking beer will help prevent cancer," Stevens said. "Most beer has low levels of this compound, and its absorption in the body is also limited. But if ways can be developed to significantly increase the levels of xanthohumol or use it as a nutritional supplement, that might be different. It clearly has some interesting cancer chemopreventive properties, and the only way people are getting any of it right now is through beer consumption."

In recent years, it has also been shown that some prenylflavonoids found in hops are potent phytoestrogens, and could ultimately have value in the prevention or treatment of post-menopausal "hot flashes" and osteoporosis—but no proper clinical trials have been done to study this.

>> BEER QUOTE

"A fine beer may be judged with only one sip, but it's better to be thoroughly sure."
—Czech proverb

by Jim Parker

Cheers to Session Beers

Dear *Zymurgy*,

I wholeheartedly agree with your article about session beers (July/August 2005). Some of my friends who love the taste of my beers still shy away because they know that even one beer can sometimes send them stumbling home. Can you please include more info and especially recipes for session beers? How about a session stout, or a tasty session Belgian?

Thanks,

Dan Overmyer
Fort Collins, Colo.

Dan,

The package on session beers got more response than any stories we have run in my admittedly short tenure here. So I am sure we will have more session-strength recipes in the future. But tell your friends, "Fear no beer." Just invite them to camp out at your house after some of your more extreme beers.

Cheers,
—Ed.

More Session Love

Dear *Zymurgy*,

Thank God for intelligent men like Fred Eckhardt, and some other notable older folks (in whose club my membership is paid in full!) who are trying to educate the young people in taste! I am also the only member (I believe!) of the AHA who was born on that notable day, December 5, 1933! At 2:15 p.m. my mother popped out a beer-and-pizza-craving brat, and the craving for good beer and *real* pizza (being born in New Haven, Conn., home of Pepe's and Sally's and ancient coal-fired ovens accounts for the latter!) has been with me since!

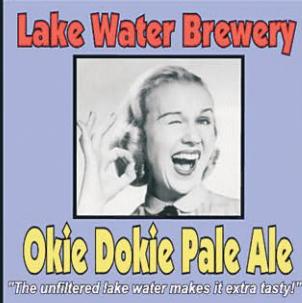
But I digress! Of course I succumbed to the corporate tastes of the giants and their

no-taste brews during my early years, but I found the joy of homebrewing (gee, that sounds like a good title for a book on homebrewing! Oh, it's been done already?) The point of this tome is that the precise time of Prohibition has long been in my mind, as I drift from one homebrew club to another! I have told people this fact and have been scoffed at! Well, to those who doubted me, *phfft!* And pour me a double draught on my birthday, if you don't mind!

The main point of this wonderfully written article is that session beer is probably the best thing we could have in these times of all the micros trying to out-gravity and out-hop everyone else! I believe we should all try to brew a beautiful "lawnmower beer" once in a while to keep our brewery honest! The 12-ounce glass is the other salvation from the neo-Pros. I haven't had a good breakfast beer in ages! My major fault with micro light beer is that it is tasteless!

Enough rambling. Just give us more well

FROM OUR READERS



Thanks to Don Lake for sending in the label for his American Pale Ale. His brewery name is a play on his last name, and the fact that he lives on a lake.

written articles and I will give you my feelings. Oh, by the way, say hi to Jeff Renner for me! The AABG is one of my old, favorite beer clubs!

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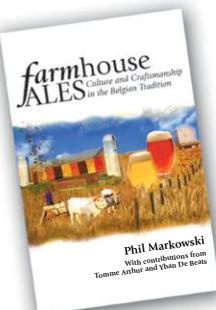
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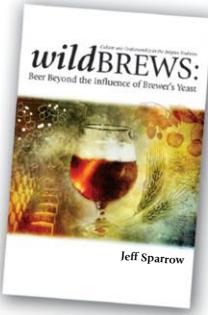
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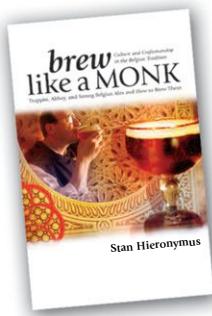
The Belgian Series: Why not have all three?



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Discover what makes the heavenly brews of Belgium so good in this new book by long time *All About Beer* contributor, Stan Hieronymus. In *Brew Like a Monk*, he details the beers and brewing of the famous Trappist producers along with dozens of others from both Belgium and America. Sip along as you read and, if you find yourself divinely inspired to brew some of your own, try out the tips and recipes as well.

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taken a crack at milds and bitters and have really enjoyed the results. Thanks, Fred, for the inspiration.

One comment: I think 1.060 (14.7 °P) is too high for the Session style guideline. I'm sure it's technically accurate, but I think the objective is to motivate homebrewers to experiment at the lower end. I would suggest an even 12 °P or 1.048 as the cutoff. This makes the alcohol low enough that the brewer is forced to experiment to get a full flavor. This can only be a good thing—after all, homebrewers may well have sparked the craft beer revolution. Now we can join forces with craft brewers and toast the session beer revolution.

Joel Gallihue
Columbia, Md.

Hi Joel,

Who knows, with all of the feedback we have received over the session beer package, perhaps "small beers" will be the next frontier in "extreme brewing."

—Ed.

Get Real

Dear Zymurgy,

I always enjoy the journal and I always learn from it, though this last issue (September/October) I was surprised by what I learned: real ale doesn't win.

When I say "real," I am referring to cask- or bottle-conditioned, as opposed to force-carbonated. Yes, I know that is not exactly the CAMRA definition, but you get my point.

In the National Homebrew Competition, categories 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 14,

In the words of one of my favorite American authors, Henry Miller: "Drink cold, piss warm."

Pete Bellecry
Certified beer judge and homebrewer for 18 years

Well Pete,

I think you said it all—and then some. And while I have to admit I will always find a warm spot in my heart—and liver—for the types of big beers we explored in the September/October issue, there are times when nothing but a session beer will do. That is one of the joys of homebrewing: being able to craft a beer for any mood that might hit you.

Cheers,
—Ed.

Too Big for Session?

Dear Zymurgy,
I returned to Fred Eckhardt's article on session beers after I had a nice bitter on a British Air flight. I actually had to cajole the flight attendant because he couldn't understand why I didn't want a famous lager that comes in a green bottle. With the brewing season now underway, I have

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15, 16 and 23 were all won by force-carbonated brews.

Most homebrewers bottle condition. Most experienced homebrewers might also keg their beer, and some do counter-pressure bottle filling. A lot of us do not do counter pressure bottling because it is difficult, but an equally important aspect is the joy and wonder associated with bottle conditioning—the subtle (and sometimes not!) changes over time that result from the fact that the beer is alive.

My concern is that in 2005 we discovered who bottles the best beer. My hat is off to the winners of categories 12, 13, 17, 18 and 19 for having the *barleys* to enter beers like most of the rest of us did.

So to win category 8 or 9 next year, should I spend my time perfecting filtration, kegging and force carbonation, or should I focus on recipe development, water quality, mashing and yeast vitality? At some point we all have to ask ourselves is the point to have fun brewing, and drinking, beer, or to win medals? Yes, you can do both.

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I realize that in some categories, e.g. 1 and 2, filtration and force carbonation are realistic with regard to authenticity. It would be nice to see a nod to the best "bottle-conditioned" beers in each category, however.

Just some food for fermentation.

B. A. "Doc" Wayne

Dear Doc,

That is an interesting question you pose and I hope it sparks some discussion from other brewers. But my initial thought is that the gold-medal beers got their winning edge dur-

ing recipe development, water quality, mashing and yeast vitality. All the filtering and force carbonating in the world won't turn a bad beer into a winner.

—Ed.

Send your letters to Dear Zymurgy, PO Box 1069, Gresham, OR 97030 or e-mail jim@brewersassociation.org. Hey homebrewers! If you have a homebrew label that you could like to see in our magazine, send it to Kelli Gomez, Magazine Art Director, Brewers Association, PO Box 1679, Boulder CO 80306 or e-mail it to kelli@brewersassociation.org. 



MILLER WINS FIRST DARRELL COX AWARD

Editor's note: The following letter was forwarded to *Zymurgy* by members of the St. Louis Brews homebrew club. We join the Brews in congratulating David Miller for this well-deserved award.

Dear Dave,

On March 15th, 2005, the St. Louis homebrewing community suffered a tragic loss with the untimely passing of Darrell Cox. If you did not know Darrell, he was the owner/manager of the St. Louis Worm's Way store and a huge supporter of homebrewing in the St. Louis region. Darrell was known for encouraging brewers young and old. He loved working with all people regardless of brewing ability and took a special pride in assisting those who were taking their first steps on this adventure.

Darrell was also a good friend of the St. Louis Brews Homebrew Club. He hosted numerous events such as National Homebrew Day, all the while supporting the club in so many different ways. In order to recognize Darrell's commitment to homebrewing, the St. Louis Brews have created the "Darrell Cox Award for Homebrewing Advancement".

The purpose of this annual award is to recognize any person who has worked to promote homebrewing and make it a better hobby for everyone. Examples of this work can take the form of:

- Publications
- Public awareness
- Development of ingredients/tools
- Any research and development

The St. Louis Brews are proud to announce that you, David Miller, have been selected to be the recipient of the 2005 Darrell Cox Award for Homebrewing Advancement. This is in recognition of your fine collection of publications, your commitment to assisting all levels of brewers and your continued support for homebrewing.

The official presentation of this award will be at the banquet following our Happy Holiday Homebrew Competition on December 10. We would be honored if you and your family would be able to attend, although we understand if prior commitments would prevent you from joining us. Please contact me at the phone number listed below, and I can give you more details on the exact time and place of the banquet.

Congratulations and I would like to thank you on behalf of homebrewers worldwide.

Bob Beckmann, President

St. Louis Brews

3561 Lakeview Heights Drive

Saint Louis, MO 63129

by Ray Daniels



A Toast to Ben: Poor Richard's Ale

The writer's muse sometimes strikes a brewer in strange ways. Clearly my interest in Benjamin Franklin qualifies as decidedly offbeat, even when beer gets added to the equation.

A number of years ago I imagined Franklin as the perfect time traveler. Although he lived nearly 300 years ago, the breadth of his knowledge and the quickness of his mind indicate that he would be merely taken aback rather than totally disabled by immersion in the systems and society of our current country.

That plus his reputed love of beer long ago prompted me to cast him in an imagined time-travel novel set in a modern microbrewery. Imagine showing up for your morning mash-in to discover that Benjamin Franklin had transported himself into your brewhouse during the night.

During long road trips, tedious waits in line and conference calls with Boulder I sometimes ponder the first American's likely reaction to modern life. What, for instance, would be his reaction to stainless steel? Would the mirror-like finish found on some modern brewery vessels make him think we were brewing in a massive silver bowl? Or would he immediately make the connection to the mixed metals of his own time and inquire about the composition of the alloy?

And what a joy it would be to show him all the wonderful ways in which the electricity that he helped to introduce to our world has helped to ease the brewer's burden. From lights to work by, pumps to move the beer and chillers to keep it cool he would surely be fascinated by the ways in which his discovery has bloomed. On the other hand, maybe he had imagined some or all of those possi-

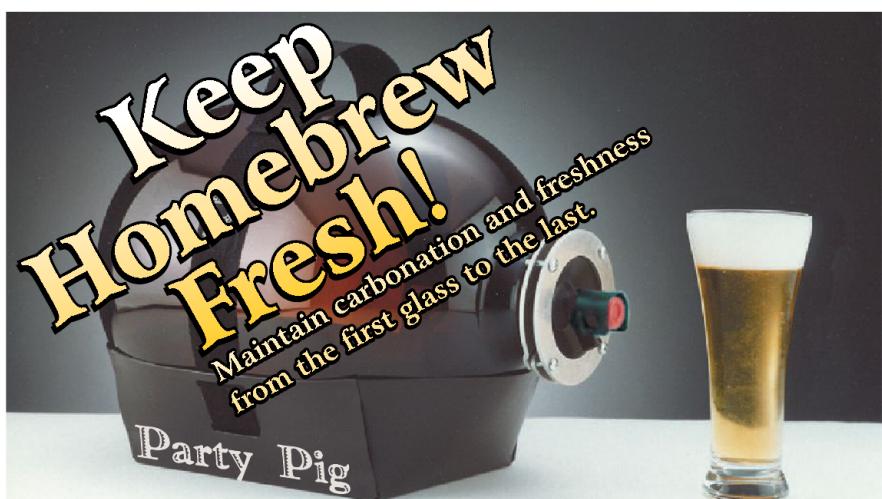
bilities. If so, the wonder would come only in how it had been done rather than in the capability itself.

The other part of my imaginings about a temporally transported Franklin goes to the issue of what we could learn from him: "Yo Ben, taste this beer. Is it anything like what you drank back in the day? How is it different?"

Imagining that conversation might occupy a lengthy airline delay or some particularly low-key family gathering. As with much of history, we have recipes and vague indications of beer character, but nowhere can we find a clear set of descriptions of the flavor of most historic brews.

All of this brings me to January 17, 2006. If you haven't heard already, it will mark the 300th anniversary of Franklin's birth. There are great doings planned all over the country to celebrate the occasion and we homebrewers have a couple of chances to play along.

The foamy hoopla all revolves around a beer we're calling Poor Richard's Ale. In late September, the Brewers Association held a competition to identify a recipe for a brew to commemorate Ben's big day. The winner was a familiar face to homebrewers: Tony Simmons from Pagosa Springs, Colo. Tony's experience as a homebrewer and brewing supply shop owner as well as his involvement in plan-



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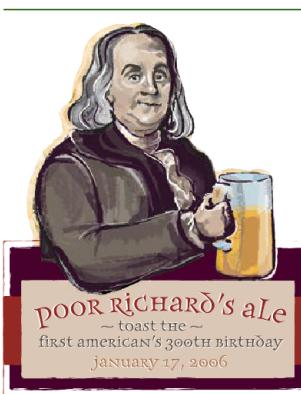
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ning a commercial brewery allowed him to craft a recipe that appealed to our panel of award-winning pro brewers and beer-loving historians.

Many of the recipes in the competition featured molasses—an ingredient widely reported to have been used in colonial beers. Tony's judgment there was to skip the powerful "blackstrap" varieties and use a medium or dark grade molasses that would be less assertive. This gave him a more balanced and—according to the judges—more drinkable beer.

A second key decision Simmons made was to steer away from spruce as an ingredient. Those of you who have experimented with this know that a little goes a



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long way and the result is something of an acquired taste.

Finally, Simmons selected another ingredient that most modern homebrewers

would avoid, but it turned out to be the deciding factor in his win. That ingredient was flaked maize (corn)—the same sort of stuff that some big guys put in their adjunct lagers. His final recipe used pre-gelatinized yellow corn flakes for 18 to 20 percent of the grist.

Why was this the winning stroke? In the explanation that accompanied his recipe, he wrote: "Because of the high cost of imported malt along with the unreliability of local barley crop harvests, brewers at the time often used adjuncts." Similarly, he noted that hops were expensive and often in short supply, suggesting that Franklin's quaff would have been mildly bittered along the lines of a modern strong Scotch ale. (See www.beertown.org/homebrewing/index.html for the full text of his entry and the complete recipe).

Original Target Gravity: 1.068 (suggested range 1.060–1.086)

Final Target Gravity: 1.018 (suggested range 1.014–1.030)

IBUs: 27 (suggested range 25–35)

SRM: 17 (suggested range 12–25)

BU/GU Ratio: 0.39

Directions

Mash at 154° F (68° C) for 45 minutes or until complete conversion. Boil 90 minutes.

Simmons was of course thrilled to have his recipe picked as the winner. But a recipe only sets a starting point. To bring the beer to life, we have asked brewers all over America to whip up a batch to offer during the celebrations in January. As a homebrewer, you can participate by making your own batch from the full recipe listed with this column. In addition, you can seek out the examples brewed by your local breweries to see how their interpretation of this recipe turned out. If you've made your own, the comparisons should be particularly enjoyable.

Cheers.

Ray Daniels is director of craft beer marketing for the Brewers Association. 

Poor Richard's Ale

All-Grain Recipe

Brewer: Tony Simmons

Ingredients

for 5 U.S. gallons (19 liters)

(Assuming 63% efficiency)

8.5 lb	(3.9 kg) (59%) Maris Otter Pale Ale Malt ('Low Malt')
2.75 lb	(1.25 kg) (19%) flaked corn
1.75 lb	(0.79 kg) (12%) Biscuit Malt ('High Malt')
1.0 lb	(0.45 kg) (7%) Special Roast ('High Malt')
2.0 oz	(56 g) (1%) Black Patent ('High Malt')
4.0 oz	(112 g) (2%) medium or dark molasses (not blackstrap), 15 minutes from end of boil

Hops

0.50 oz	(14 g) Whole Flower Kent Goldings, 5.0% Alpha Acid, 60 min
0.75 oz	(21 g) Whole Flower Kent Goldings, 5.0% Alpha Acid, 60 min, 45 min
0.50 oz	(14 g) Whole Flower Kent Goldings, 5.0% Alpha Acid, 60 min, 30 min

Yeast

English—White Labs 002 or Wyeast 1968 or
Scottish—White Labs 028 or Wyeast 1728

by Professor Surfeit



Safety First, Taste Second

Dear Professor,
I have been brewing for 10 years and have started to change some of my tactics. After a primary fermentation of a week, I rack directly to a soda keg and put it in my fridge at 45° F or 65° F, depending on if it's a lager or an ale. I feel this amounts to "keg conditioning" the beer, but I wonder if I should be fitting an airlock to the "gas in" connector or letting it build its own pressure. Am I trapping stuff that I should allow to outgas, or is the only thing being released CO₂? This summer has been so hot in northern Illinois that I couldn't even let my ales ferment in the basement. Temperature control seems so important to avoid off-flavors.

Dave Deutsch
Utica, Ill.

Dear Dave,
Some yeasts are more sensitive to high temperature "off-flavors," while other yeasts ferment relatively clean at warm temperatures or produce desirable characters that would not necessarily be sought in English type ales or German type lagers. So you're correct about the benefits of temperature control.

Personally, I'm a bit anxious about going directly into a soda keg and conditioning homebrew while it is still fermenting. With my brewing techniques I get too much variation with the length of primary fermentation. Some beers primary ferment in less than a week, while others may actively ferment for two weeks. Yeah, I know, it's my own fault for not pitching enough yeast, but patience is free and my beers turn out, well, great.

So, now to answer your question. Yes there are volatile by-products of fermentation that can detract from your beer if forced into the beer along with carbon dioxide. Me, I'd prefer to get complete fermentation in a second-

ary or even the primary and then add extra sugars to condition the beer. The bottom line as far as flavor quality is concerned is whether you love the taste of your beer using the method you described. But I still think there is too great a risk in overpressurizing your kegs. That can be very dangerous. If you still want to do it, please be sure there is a high-pressure release safety valve on the lid of the kegs. If not, please stop!

Safety first, taste second,
The Professor, Hb.D.

More Beer, Less Alcohol

Dear Professor,
I like beer. And I like to enjoy a few when

I relax. Lately I've become interested in scaling recipes back to the lower end of starting gravity for the style so that I can enjoy several beers without having a hangover next morning. My question is, how do you adjust hop additions in a recipe if you're lightening the grain bill and want to preserve the character of the style? Is there a rule of thumb, or is this a trial and error process?

It seems a shame to me that session beers are largely neglected by microbrewers. Perhaps we as homebrewers can direct some industry attention to this wonderful class of beers! Can the Brewers Association help jumpstart this by featur-

ing an article on scaling recipes in a future issue of *Zymurgy*?

Thanks for your time!
Eric McMillan
Turlock, Calif.

Thanks Eric,
Charlie Papazian wrote a commentary in the March/April 2005 issue of The New Brewer magazine discussing exactly your sentiments about "session beers." I'll see if we can run a version of it in a future issue of Zymurgy.

There is no rule of thumb (yet) about scaling hops down in a recipe, but there are plenty of recipes for "session" style beers such as German helles, ordinary bitter and lower alcohol pale ales, mild ales and stouts. Take a look at the bittering units for those beers and apply the same to your light and dark ales and lagers.

Loving barleywines, but drinking helles,
The Professor, Hb.D.

Fuel-Saver and Oversparging

Dear Professor,
I think the last time I e-mailed it was about homebrewers using or storing propane in the house. By the way, if anyone has any questions about how inadvisable this is, just read the label on the propane tank. Never hurts to repeat this once in a while.

Right now I'm having to boil away about 2 gallons of water from my wort in a batch of porter with a 10-pound grain bill. This time-consuming step seldom gets mentioned, I notice. Thank goodness for that propane burner, which is roaring away outside right now.

I use a bucket-in-bucket for a sparging system. This works quite well but I don't seem to know when to stop collecting the sparge water. A lot still comes dripping down once the sparging is really over, so I can't seem to resist collecting an extra few cups while it is just dripping off. I quit once it is going pretty slow—hard to quantify this—but just about the time it changes from dribble/rapid dripping to regular dripping. My thought is that perhaps I might be avoiding some undesirable

flavors this way. But would it be advisable to collect more? Likewise, if it is wiser to stop sooner I'd like to know that.

Thanks for the help,
Carl Williams
Arlington, Va.

Dear Carl,

I'm assuming a 5-gallon batch here. I get great extraction, but never use more than 4.5 gallons of sparge water for any kind of beer. I calculate my sparge water at 2 quarts per pound of grain. Oversparging results in extraction of astringent tannins, not ideal for smooth tasting beer.

I use a very simple and basic homebrewing system—a 5-gallon bucket as the hot water bucket and don't fill it beyond 4 or 4.5 gallons. Given that you only have a foot deep of a grain bed you are going to get full rinsing with a lesser amount when you use 10 pounds. I max out at about 12 pounds of grain in my 5-gallon false-bottomed bucket and still get excellent extraction with 4.5 gallons of sparge water.

Energy ain't cheap anymore, so no need to boil away that unnecessary water.

Not oversparging,
The Professor, Hb.D.

Additive Gravities

Dear Professor,
I may have made a mistake in a brew and would like to salvage it if possible.

I was going to make a Honey Porter and for some strange reason just added 5 pounds of clover honey to my regular porter recipe. The recipe normally has a S.G. of about 1.060, however I forgot to test it before I pitched the yeast, and the addition of the honey will affect the S.G. of the original recipe. From the *Clone Brews* book, I found that the S.G. of 5 pounds of honey and 5 gallons of water should be about 1.032.

My question is, are the gravities from the porter recipe and the honey and water additive, giving me an approximate S.G. of 1.092?

If so, I'm sure I used yeast that will not ferment down far enough. I used

Nottingham dry yeast. I feel that I may have been better off using Champagne yeast instead of the Nottingham because of the suspected high gravity. I do not want to toss the brew, as it may turn out OK even with the mistakes.

If the S.G.s are not additive and the S.G. is lower than I think, this may be a moot question.

Any help will be appreciated.

Thanks,
Michael Proctor

Dear Mr. Proctor,

Yes, specific gravities are, as you say, "additive." Please don't throw it away by any means! If the dry yeast doesn't take off in 24 hours go out and buy some of the stronger fermenting ale or lager yeasts at your local homebrew store. 1.092 is not too high for healthy lager and ale yeasts so you shouldn't have a problem.

If you feel like you have an incomplete fermentation and want to pitch a Champagne or strong ale yeast at the end of the first ferment I recommend rehydrating and using dry yeast as they don't require the oxygen that "wet" pitching with liquid yeast requires.

Relax. Don't worry. Have a homebrew,
The Professor, Hb.D.

Michael's Follow-Up: The gravity on the wort is down to 1.030 when I racked it after five days. It has now been 11 days since pitching the Nottingham yeast and we are at 1.022 and still working. The Nottingham seems to work great on high gravity wort. I have my test tube sitting across the room and the smell of honey and beer is strong. It has a high alcoholic taste. I'm not sure at this point to cut it by watering before I bottle it or let it go as is. It seems to be mellowing already from when I racked it and it may finish to a great taste as is.

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@brewersassociation.org.

by Stan Hieronymus

Big, Beautiful Belgians

Editor's Note: The theme for the February 2006 American Homebrewers Association Club Only Competition is "Big Beautiful Belgians." We focus this issue on Belgian dubbels with an excerpt from Stan Hieronymus' new book Brew Like a Monk: Trappist, Abbey, and Strong Belgian Ales and How to Brew Them (Brewers Publications, 2005).

Because they are dark and strong but not too strong, dubbels drink most like Trappist ales of the past, and to many they represent the "abbey" style. Dubbels introduced many drinkers to Belgian beer, in part because of Chimay Red and in part because so many brewpubs occasionally brew a dubbel.

Although Belgian brewers favor Pilsener for the base malt and lean heavily on dark caramel syrup for color and complexity, Americans lean toward pale ale malt as well as Pilsener in the base and a much wider range of specialty malts. Among homebrewers, Special "B" appears in almost nine out of 10 recipes, often along with CaraMunich®.

The range of fermentables varies little from dark strong. In fact, like the line between golden strong ale and tripel, the one between dubbel and dark strong gets blurred. Where does a beer like Maredsous 8 (1.069, but stronger than 8 percent abv) fit?

Gordon Strong, who wrote the guidelines, explains that much of the distinction is a matter of intensity. "The main differences are apparently rooted in the alcohol strength," he said. "Dark strongs are a broader style with a greater range of commercial interpretations, but they all have a complex balance of interesting flavors and aromas with a malty flavor and a darker-than-pale color. Dark strongs have a greater alcohol

(continued on page 17)



Dubbel

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



2 cans	Coopers Light Malt Extract
0.5 lb	(0.23 kg) Coopers Light Dry Malt Extract
0.5 lb	(0.23 kg) CaraVienne Malt
0.5 lb	(0.23 kg) CaraMunich® Malt
0.5 lb	(0.23 kg) Special B Malt
1.0 lb	(0.45 kg) Dark Candy Sugar
1.5 oz	(43 g) Styrian Goldings, 5.25% AA, (60 min)
	Wyeast 3787 Trappist High Gravity Yeast or White Labs WLP530 Abbey Ale Yeast
1 cup	(240 ml measure) corn sugar for bottling

Directions

Steep grains in 1.5 gallons of 150° F water for 20 minutes. Remove grains and sparge with 1 gallon of 170° F water. Stir in extract and candy sugar and bring to a boil. After 30 minutes, add hops. Boil for 60 minutes then strain into fermenter with enough cold water to make 5 gallons. When temperature gets down to 66° F, aerate and pitch yeast. Ferment at 66-72° F for one week. Rack to secondary and store at 65-68° F for four to six weeks. Prime with corn sugar and bottle.

Original Specific Gravity: 1.071

Final Specific Gravity: 1.014

IBUs: 19

ABV: 7.5%

CLUB ONLY COMPETITION

Category 18 Belgian Strong Ale

Entries due February 4, 2006. Judging will be held February 11.

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Walnut Brewery
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Kailua-Kona

IDAHO

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Elmwood

Flossmoor Station Brewing Co.
Flossmoor

Goose Island Beer Co.
Chicago (2)

Old Chicago
Rockford

Mickey Finns Brewery
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Ellicottville

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Lake Placid

Lake Placid Craft Brewing Co. Plattsburgh

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Brew Kettle, Taproom and Smokehouse

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Rock Bottom Brewery

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Willoughby Brewing Co.

Willoughby

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Laurelwood Public House & Brewery

Portland

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**Club Only** (continued from 15)

component, but have more malt and yeast character to match. The balance remains similar, but the intensity of perceptual characteristics is proportionally greater in Belgian dark strongs."

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"STONE" AGE BREWING

BY TED HAUSOTTER



Years ago I became intrigued by stein bier, or stone beer. Stone beer involves brewers heating rocks in a fire and dumping them in wort, watching it sizzle and bubble as the wort boils. Beer, fire and a good excuse for a camping trip—sounds like the perfect club brew to me.

Stone beer is not a beer style, but merely a technique in brewing. Flavor-wise, it is a drastic change from using a propane burner and stainless steel brew pot. The rocks are heated to 700° F to 1000° F (371° C to 538° C). Adding them to the wort produces soft, sweet candied sugar flavors while the heat energy is being transferred.

These delicate flavors are washed off the rocks during the boil. Some brewers choose to remove the rocks before they are completely washed off and save them for secondary. Others will reheat them, giving the wort a light burnt flavor, not unlike sugar drippings on a pan of cinnamon rolls. A wood fire can add a delightful smoky flavor. Naturally, you have choices to minimize the smoke flavor, such as propane, natural gas and briquettes.

Cooking with hot rocks is something that cultures without metal brew kettles did out of necessity. In the American Northwest, they used cooking pots made from hides and added hot rocks. In Europe, beer was made in a wooden boil pot and hot rocks were added to boil the wort. It's enough to make one appreciate the inventors of stainless steel and propane cookers, without which brewing today surely would not exist!

MODERN STONE BREWING

In Germany, the Rauchenfels brewery resurrected the stein beer technique. Since then, Boscos in Memphis, Tenn. has become famous for its Flaming Stone Beer.

Rauchenfels uses greywacke rocks, which expand as they're heated, giving more surface area for the caramelizing to form. It is an easily available rock—if you live in Germany. Boscos reportedly uses pink Colorado granite.

In our first experiment, we used local rocks. My first choice was diorite, similar to granite with big black and white crystals that give it a salt-and-pepper look. This was a big mistake, as apparently these rocks are not thermally stable enough to survive the heating process. One turned into sand and pea gravel while it was being heated. We tossed the rest of them into the creek, where they disintegrated.

There are two points to consider when choosing rocks. First, do not use rocks from the banks of creeks. They will usually spew rock shrapnel as the water trapped inside them expands to steam. Safety glasses are a good precaution until you determine if you have stable rocks. Second, avoid rocks with red or orange rust streaks that can signify naturally occurring iron. If the acidic wort has iron-bearing rocks immersed in it, a metallic flavor, like blood or coins, can be found in the finished beer. In addition, sedimentary rocks can potentially change the water chemistry and can have stability problems when heated.

Granite and other igneous rocks seem to work well. Lava, which is what native cultures used and which can be found in abun-

dance in the West, is a great choice. The best rocks are grapefruit-sized. Apple-sized rocks do not have as much thermal mass, and bigger rocks are harder to handle.

Test your rocks before you brew. Get them hot and throw them in some cold water (don't forget the safety glasses). The rocks will not take continued heating and cooling cycles. We found the rocks broke up into smaller pieces after three or four cycles.

It takes a good half-hour for the rocks to get hot in the fire. Once the wort is boiling, expect a grapefruit-sized rock to boil 20 gallons of wort for five minutes.

TECHNIQUE

For your first time, mashing in with propane burners is recommended. We had a fire tender who added wood to the fire and brought over the hot rocks in a garden shovel. We lifted the rocks out with some tongs and put them in a stainless steel basket not unlike those used in deep fryers. The basket was supported by a pole on the rim of the brew pot. This made loading and unloading the rocks easy.

After the rocks cooled, we sent them back to the fire to reheat. We kept this up for a 90-minute boil and then chilled to 80° F (27° C) with an immersion chiller, pumping water out of the creek with a sump pump. At this point, we racked the beer off the sludge (caused by ash entering the brew from the rocks.) A lot of sludge developed! Plan on losing 15 to 20 percent of your volume to hops and sludge.

The beer was racked into Corny kegs. The dip tubes were removed and a hose added to the threaded-out side of the keg. A liter pop bottle half-filled with water was taped to the keg and the hose run into it, forming a fermentation lock. This non-breakable fermenter could be put in the creek to keep cool or hauled in the car.



**COOKING WITH
HOT ROCKS IS
SOMETHING
THAT CULTURES
WITHOUT BREW
KETTLES DID
OUT OF
NECESSITY.**

Firestone Summer Ale

Ingredients

for 5 U.S. gallons (19 liters)

4.75 lb	(2.15 kg) English pale ale malt
1.25 lb	(0.57 kg) Vienna malt
1.0 lb	(0.45 kg) flaked corn
0.65 oz	(18 g) U.S. Kent Goldings, 5.2% alpha acid (60 minutes)
0.5 oz	(14 g) U.S. Kent Goldings, 5.2% alpha acid (30 minutes)

Original Target Gravity: 1.040

IBUs: 20

Efficiency: 80%

Directions

Mash in at 150° F (66° C) until conversion. Pitch Wyeast 1056 yeast. Ferment at 70° F (21° C).

Rocktoberfest

Ingredients

for 5 U.S. gallons (19 liters)

7.5 lb	(3.4 kg) Pilsener malt
14.0 oz	(392 g) Vienna malt
14.0 oz	(392 g) Munich malt
0.5 oz	(14 g) Hallertau, 5% alpha acid (90 minutes)
0.75 oz	(21 g) Hallertau, 5% alpha acid (60 minutes)
0.6 oz	(16.8 g) Hallertau, 5% alpha acid (30 minutes)

Original Target Gravity: 1.055

IBUs: 30

Efficiency: 80%

Directions

Mash at 152° F (67° C) until conversion. Pitch Wyeast 2206 for lagers and ferment at 50 to 54° F. For warmer ferments use Wyeast 1007 and ferment at 68° F (20° C). Note this recipe is designed to show off the stone technique character. For a maltier beer increase the Vienna and Munich malts to 1.5 lb each and reduce the Pilsener malt by 1 lb.

SPECIALTY EQUIPMENT NEEDED

- Big stainless steel spoon or small stainless steel shovel
- Stainless steel wire or perforated stainless steel basket
- Air supply for the fire such as bellows
- Tongs

STONE BREWING TIPS

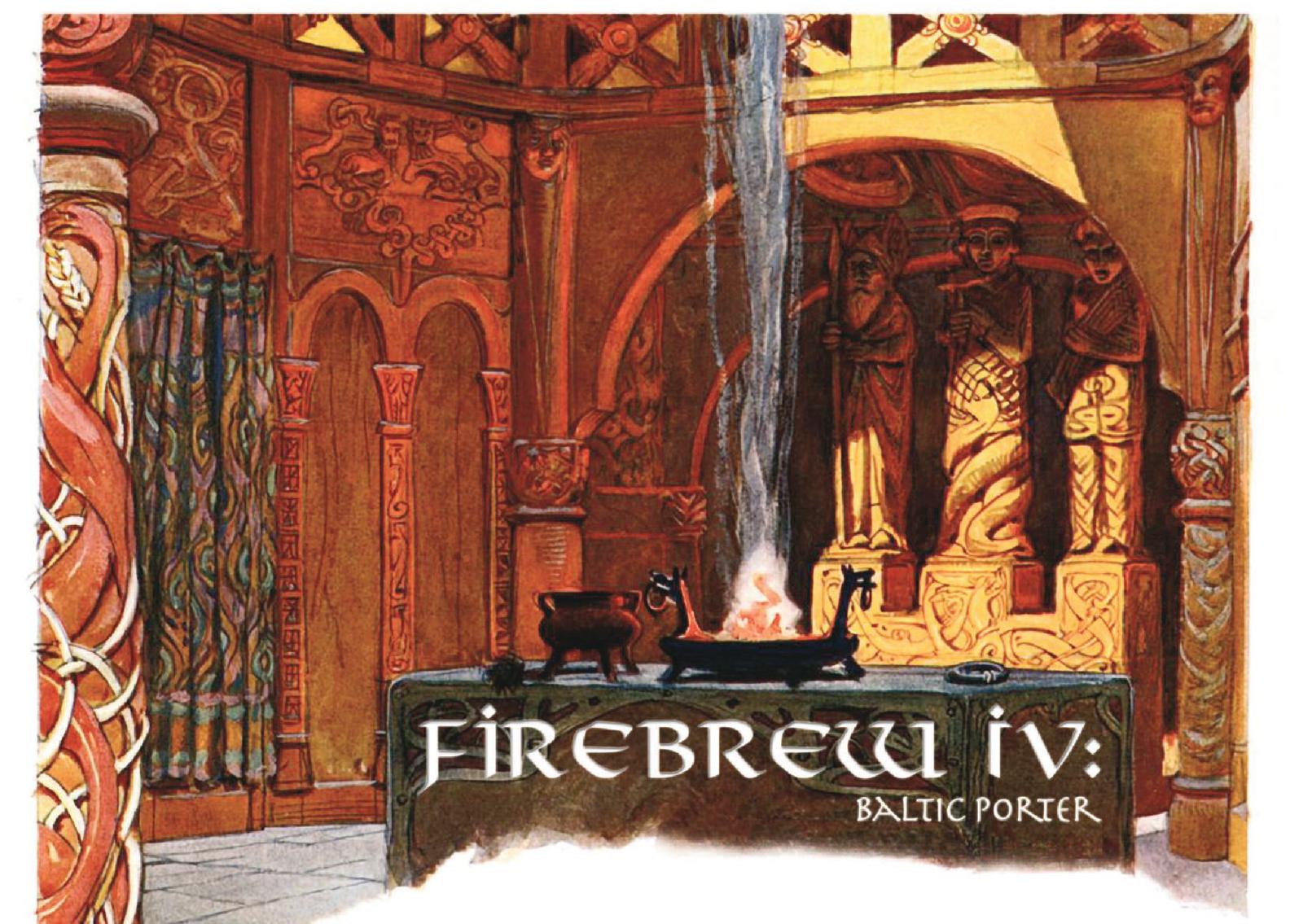
Use a fire ring with good ventilation. Most campground rings are not designed for heat and burning wood; they are designed to keep the fire contained. One with a completely open front allows air to feed the flames. Blacksmiths used bellows to speed the burn rate and give off more heat. I used an air mattress pump and it supplied only enough air to heat one or two rocks at a time.

Hardwoods like maple or oak will work better than softwoods such as fir or pine. The resins in softwoods can be pronounced and distracting in the finished beer. For convenience, I grabbed a load of fir mill ends for our wood source. We noticed it in the flavor after six months of lagering. Be patient—the smoke flavors diminish over time. Keep tasting your stone beer every month as it will continue to evolve.

Styles of beer that lend themselves to stone brewing are any of the smoke styles, such as Marzens, Oktoberfests, porters and Vienna. This is especially true if you use wood versus propane for your rock's heat source. Wheat and light ales also work well. Boscos' base style is a wheat beer. It allows the slightly sweeter caramel flavors to come through. Lighter styles will show off the uniqueness of the technique more than dark beers. Hoppy APA or IPA might hide the subtle nuances of the technique.

Do not attempt a stone brew by yourself. Three people work great; four are even better. Don't forget the safety goggles.

Ted Hausotter is an award-winning homebrewer from Baker City, Ore. and an assistant director of the Continuing Education Program of the Beer Judge Certification Program.



FIREBREW IV:

BALTIC PORTER

BY CHRISTIAN McDANIEL



Editor's Note: This is another in an occasional series of articles highlighting activities homebrew clubs organize to promote brewing and their clubs. If your club has an activity you would like to share, send a query to jim@brewersassociation.org.

According to the Norse epic "Prose Edda," circa 1000 AD, wine is reserved for the gods, mead for inhabitants of the realm of the dead and beer for humans. Being mortal, that suits us just fine.

As in the Norse myths, the weather forecast for Firebrew IV was bold and grim: thunder, lightning, violent winds

and heavy rains. Undaunted, the Red Ledge Brewers, a group of amateur and professional brewers in the greater Lansing area, held their fourth annual Firebrew event in Eagle, Mich.

The first Firebrew featured an Oktoberfest ale, followed by an imperial stout the next year and then a Scottish ale. The premise behind these events is that if some beer is good, more beer is just naturally better. And 200 gallons of beer is nirvana.

With the camaraderie of brewers bound together by a love of zymurgy, gadgetry



and the thought of sharing a banquet of unique homebrews, all of the elements for a memorable event were in place. This year's recipe was for a Baltic porter devised by John Geisler, who also arranged to have all supplies donated by Briess, Hopunion, White Labs and the Red Salamander, a homebrew supply store in Grand Ledge, Mich.

In the predawn hours of Firebrew IV, Ed Huston and host Dean McCracken made preparations for the porter and started heating the water for mashing in the 250-gallon stainless steel vessel that Red Salamander owner Karl Glarner acquired more than 10 years ago. Huston had fashioned a concrete pit during July to contain the fire that would boil the wort.

As the day progressed, a total of 21 brewers and their friends, families and pets joined the brouhaha to work and play.

At approximately 10:55 a.m., the grains were added to the mash lauter tun. These were doughed for about 90 minutes in a temperature range of 154 to 162° F (68 to 72° C). At approximately 12:15 p.m., we added sparge water and transferred the wort to the boil kettle positioned over the fire pit. We started a wood fire under the boil kettle after the wort transfer. The original gravity of the wort was 1.060.

THE WEATHER CALMED
AS THE PORTER WAS
FINISHED. MORE THAN
A LITTLE LIBATION WAS
POURED THAT DAY TO
HONOR THE GODS. THE
EVENT BEGAN TO BREAK
UP AT ABOUT 6 P.M.
ALTHOUGH THE
CLEANUP WOULD GO
ON FOR WEEKS.

We achieved a boil of the 200-plus gallons of wort by 12:45 p.m. While the wort lautered, the Red Ledge Brewers sampled an amazing range of homebrews provided by members, socialized and swapped big beer stories. The Firebrew was well organized as tasks had been identified and assigned through the group's Web site well in advance of the event.

While the hops were boiling, Geisler raffled off a number of items provided by the event's sponsors.

At approximately 4:45 p.m., brewers began to install a four-arm counter flow chiller and a water supply, a task that

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had been challenging during previous Firebrews. It went off without a hitch this time around. The cooling process had begun and the first carboy was filled at 5:15 p.m.

The weather calmed as the porter was finished. More than a little libation was poured that day to honor the gods. The event began to break up at about 6 p.m. although the cleanup would go on for weeks.

In addition to the supplies provided by the generous sponsors, the Red Ledge Brewers collected about \$200 from attendees who did not sign up for a specific task. The money will be used to promote group activities.

Firebrew IV attendees included Tom Wellman, Diane Brown-Rutlewski, Bejeir Brooks, Hans Hinke, Ginger Hagen, Ed

Huston, John Geisler, Brian Stanley, Tim Amato, Scott Isham, Karl Glarner, Sean Royston, Dave Novak, Olin Annis, Bob Lorbett, Thom Cannell, Reggie Brooks, Eric Spitzfaden, Chris McDaniel and Tobias Williams.

Christian McDaniel is a member of the Red Ledge Brewers homebrew club in Grand Ledge, Mich.

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Baltic Porter

All-Grain Recipe

Ingredients for 175 gallons (6.62 hl)

Total volume boiled: 200 gal (7.6 hl)
Based on a mash efficiency of 70 percent

300 lb	(136 kg) Ashburn malt
200 lb	(90 kg) Briess Munich Malt
30 lb	(13.6 kg) Briess two-row Caramel Malt 80L
30 lb	(13.6 kg) Briess Special Roast
30 lb	(13.6 kg) Briess two-row Chocolate Malt
13 oz	(364 g) Hallertau Magnum pellet hops, 11.50% alpha acid, 60 min.
11 oz	(308 g) East Kent Golding pellet hops, 6.1% alpha acid, 30 min.
10 oz	(280 g) Czech Saaz pellet hops, 3.6% alpha acid, 15 min.
4 oz	(112 g) Hallertau Hersbruck pellet hops, 5.1% alpha acid, 15 min.
	20 teaspoons Irish moss
	White Labs WLP838
	Southern German Lager yeast

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a Medieval Brewing Experiment

by Matt Jarvis

Back in the old days, before the modern era of brewing with steam-fired kettles, hydrometers, thermometers and other technologies that we now take for granted, anyone who wanted to brew pretty much had two choices: hope for the best, or learn from someone else who could transfer the knowledge. Experience was a key element in brewing success.

A year or so ago, an idea was born (over copious amounts of homebrew, if I recall correctly): What would it be like to brew "by the seat of your pants" and not depend on measuring instruments? After all, in times of old they did it all the time. Are we good enough to pull it off?

We decided to keep the group as small as possible because of brewing space limitations. Plus we got a lot of ribbing from some club members who thought this was a rather silly idea, so we chose to include only those dedicated to the idea of trying this out.

Those left standing were Robin Chitwood, host, brewmaster and chief instigator of this whole thing (not to mention the esteemed president of our club); Nate Sampson, an eager brewer and student of the art; Jason Means, somewhat new to brewing on his own but my frequent assistant; and myself.







Will this end up being a world-class beer?
Unlikely, but from tasting the wort sample it really should turn out a lot better than I originally expected given the crazy mashing schedule.

The Rules

After a great deal of debate about what would constitute medieval brewing techniques, we settled on some rules that we thought would make this a valid experiment. Some assumptions were in order. It was decided that brewers back then would have learned a few things over time, such as how big a pile of grain made a batch of beer, how much water to add and how much boiling water plus "other" water made for the correct resulting temperature of the mash. Also, they used some sort of kettle, so we could use our converted kegs; they had baskets or other vessels, so we could use the ubiquitous white plastic bucket; they could have fashioned scoops of various sizes, so it was OK for us to use something like a saucepan for adding water and keeping track of the proportions. And of course, no clocks!

The Recipe

Recipe for 10 U.S. gallons (38 liters)

Grain

Pilsener malt: "a big pile"

(about 25 pounds)

Pilsener malt (toasted):

"a couple really big handfuls"

(about 1.5 pounds)

CaraAmber®:

"1 handful" (about 0.25 pound)

Chocolate:

"half handful" (about 0.125 pound)

Wheat:

"1.5 handfuls" (about 0.75 pound)

Home smoked two-row:

"a couple really big handfuls"

(about 1 pound)

According to Chitwood, it all "looked about right" so we went with it.

Hops

Magnum

(Desired: approximately 0.75 ounce of 15.7 alpha acid)

Saaz

(Desired: approximately 1.5 ounces of 3.6 alpha acid)

Yeast

The yeast choice was a topic of major discussion, since we wanted to approximate what we thought beer back then might taste like (to some extent). Then again, we wanted to have some good beer to enjoy down the road as well. Since Sampson is the Keeper of the Yeast for our club, we asked him to make up a concoction of Ardennes (cultured from a bottle of LaChouffe), WLP565 Saison and Wyeast1762 Belgian Abbey II. We debated throwing in some *Brettanomyces* for authenticity, but in the end the witches brew that Sampson put together seemed pretty workable.

The Brew Session

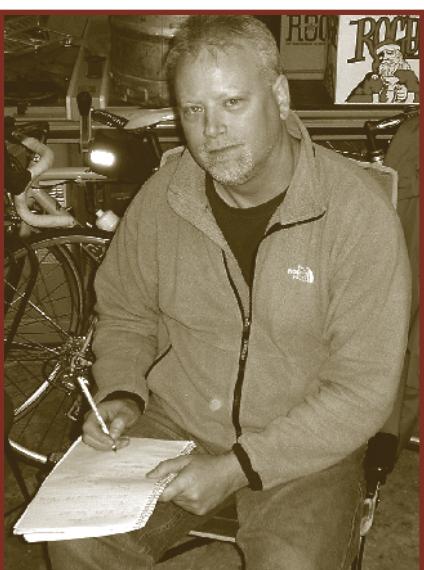
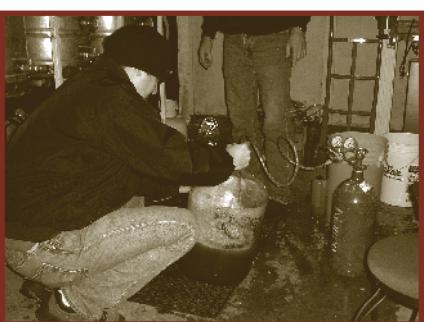
We converged on Chitwood's brewing parlor, where he was busily setting things up and heating some water. It was a shame to have to relegate his handcrafted Brew Scooter 2000 to merely heating water and holding the mash, but this was science!

We turned Chitwood and Sampson loose putting the ingredients together while Means and I watched and chuckled. They tossed in a handful of this, a handful of that, then started to reach into the bin to take out some grain, said, "Screw it!" and tossed in even more. I had brought a secret ingredient (some leftover home smoked two-row malt) and it got tossed into the mix as well. Just looking at this massive quantity of grain without the benefit of a scale really made you second-

guess if you had enough (or too much). This might not be as easy as we thought!

At each step, Means and I would check the results with the "forbidden" instruments and record the results without sharing them with the brewers.





The next big issue was how to tell how hot the strike liquor was. Of course, it's easy to notice when water is boiling, but how do you figure out how much cold water from the hose you need to mix with it to get the temperature right? We guessed that a 50-50 split wouldn't do it (too cold). Maybe a 3-2 split? Doing some quick math in our heads we went with that ratio, then Chitwood did the tried-and-true "stick my finger in it and see how damn hot it is" method. We then added some cold water, then some more hot, then some cold, until it was "just right." Notice how things get pretty vague when you don't have your trusty instruments to back you up?

Chitwood was shooting for an initial mash temperature of 122° F, and using the strike liquor (at an actual temperature of 140° F) he pretty much nailed it, ending up at 123° F. It was tempting to tell Chitwood that he was on the money, but we note takers had our lips sealed!

After the initial mash rest, the first decoction was pulled off using the standard ratio of one-third the mash volume. This was then heated to boiling and stirred for "a while" (23 minutes) then stirred back into the main mash. They had hoped to end up with a total mash temperature of between 150 and 158° F, but in reality they only got it up to 142° F. Uh-oh!

Chitwood and Sampson kept staring at the mash, and as time went by you could tell they realized something just wasn't quite right with it. Remember, they had no idea what the actual temperatures were. They then pulled off about a gallon-and-a-half of liquid and heated it for a while, then added it back in (the temperature was now 136° F). After about 10 minutes they did this again, this time with about 2 gallons, and ended up at a temperature where they started—at 142° F. Still staring at the mash, they got serious this time and pulled off a couple of gallons and heated it to near boiling. When added back in they were now at 140° F. We confirmed these temperatures with more than one thermometer and a thorough stirring.

By now it was time for the second decoction to take it up to mash out. Again one-

third of the mash was removed and heated to boiling. This time, only about 12 minutes had elapsed when it was added back in. They were hoping to be near 168° F or greater, but in reality they were now at 156° F.

The vorlauf produced a lot of very cloudy first runnings and they ended up recirculating nearly 2 gallons before it ran clear enough to run into the kettle. The amount of time to deal with the first runoff may be what saved them, since the mash finally had a chance to do an alpha rest for about 20 minutes or so. Was all that messy stuff unconverted starches?

Using the batch sparging method (as evangelized by club member Denny Conn), we ended up with a total kettle volume of 12 gallons at an initial specific gravity of 1.062.

Did I mention that during all of this we were enjoying festival-like quantities of Means' Oatmeal Imperial Porter and several other delicious brews? I must confess that as the beer flowed, so did my propensity for trying to get Chitwood and Sampson to second-guess themselves—almost to the point of physical violence. I decided that in the interest of good science I should just pour myself another brew, sit down, be quiet and take more notes.

Adding hops was a bit more straightforward. The aim was 0.75 ounce of Magnum, but they actually added 0.5 ounce. Later when they wanted 1.5 ounces of Saaz hops, they "measured" what turned out to be 1.37 ounces. Not bad for eyeballing it, eh?

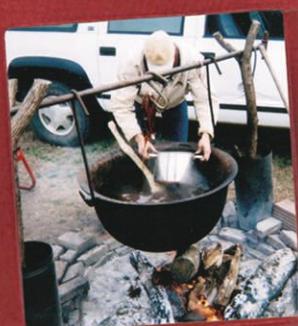
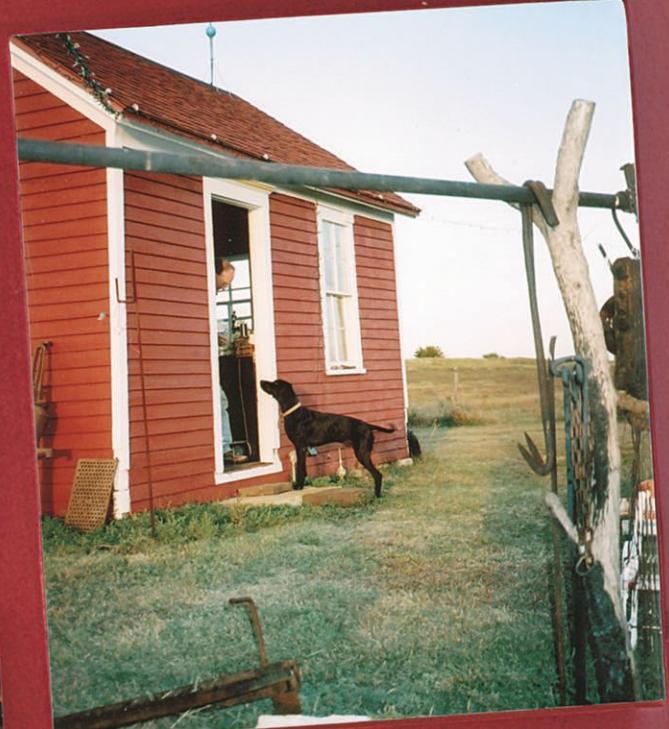
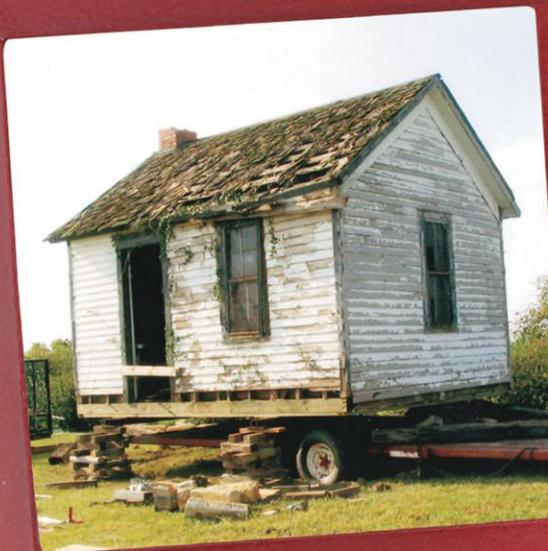
During the boil, we got a chance to enjoy some delicious Belgian Beef Stew graciously prepared by Chitwood's wife, Karen. Oh, if she only had a sister.

At flameout we ended up with approximately 10 gallons of wort with a specific gravity of 1.075.

What We Learned

With experience (and a little bit of luck) you can get pretty good at judging the quality of your *(continued on page 43)*

the *Fine Art* of



by karen dusenbury peterson

Homestead Brewing

Working over an open fire with hand-hewn brew paddles and large cast iron kettles, Kansans Erik Peterson and Don Sotta are in their element. Their self-proclaimed brew fests combine a love of heritage, family and vintage brewing equipment.



"We call it brew fest because the families get together and it's more than just brewing. All the kids play and we grill tons of food," said Peterson, from Lindsborg.



Peterson and Sotta, who lives in McCune, were housemates at Kansas State University in Manhattan, where Sotta majored in veterinary medicine and Peterson earned his master's degree in physical geography. They also worked together several summers in Alaska, where they consumed vast quantities of Lucky Lager and yearned for better brew. ➤

"After college we got married and had kids," Peterson says. "We wrote each other and talked on the phone now and then, but we didn't see each other for 11 years. Now we're both just slapping ourselves for it."

"We got together a couple times, and got to talking. We're just so into the physical history of our families. Don had brewed over the years, and so had I a couple of times, but his brew house was occupying the summer kitchen where his family had lived forever. He was cooking in the same fire pit his great-grandma did! I just fell in love with that, and it was the same thing I was already doing in my own head with living around here."

Sotta explains, "Erik and I both like junk, and old antique stuff that was used by our families on these farms. And we both like beer and making beer, so it just kind of all melded together."

The strict hobbyist style of brewing, with stainless steel pots, temperature gauges and gas burners, didn't appeal to either of them. Nor did they have the money to spend on that type of equipment.

"Pioneers didn't have hydrometers," scoffs Peterson.

The two, though, were willing to spend the money on "old stuff." Says Sotta, "We made a batch of beer outside and it turned out great. Just like in the old days, we did it out in the open air." Contrary to books they'd both read, they found that beer didn't have to be handled with sterile gloves.

They shared a belief in making good beer that would keep well, and they wanted to do it the old-fashioned way. Over a period of a few years, they collected vintage equipment, often on summer trips taken together to rough it in cooler climes. They now have four 10- to 40-gallon kettles between them.

A typical brew fest begins with a three-hour trip from one home to the other. Friday night is devoted to a family cookout, often with a menu representing the host family's heritage. The hedge (Osage

orange) fire laid that night will be kept alive through Sunday.

Peterson's Swedish forebears homesteaded a farm in central Kansas in 1875. Sotta's ancestors emigrated from Austria (now Trentino, a province in northern Italy annexed from Austria after World War I) to settle near the southeast Kansas coalmines at the turn of the last century.

A lot of Sotta's income depends on working Saturday mornings at the Fort Scott sale barn. While he processes cattle there, Peterson corrals the eight Sotta and Peterson kids to grind the malted grain by hand, using an antique burr mill.

In the early afternoon he and Sotta start washing things, getting the crocks and cast iron kettles ready. They're well aware that stainless steel and copper pots are preferred, but they make do with what they have.

"Iron's so porous that it takes on the character of whatever was in it," explains Sotta.

After boiling all the kettles and cleaning all the crocks, the two are ready by

evening to start mashing the malt. The heavy iron kettle is suspended over Sotta's fire pit by old packinghouse meat hooks hung from a wagon axle.

"When we whole grain brew, we have to use a thermometer," Peterson says. "We grind the grain and put it in a pot of water that's got to be between 150 and 155° F. You really have to learn to control heat at different stages."

To accomplish this, they use two or three different types of wood, typically hedge, hickory or hackberry along with some oak, because they each give off varying degrees of heat.

"We've got it down to a fine art," Peterson says. Their experience with "Big Betty," a 43-gallon kettle, has allowed them to keep the temperature within a degree for two hours once the desired heat is reached.

They use hackberry and oak for brew paddles because they're fine-grained hardwoods, won't deteriorate under heat and won't catch fire easily. When making them Sotta often uses the like-new hatchet his boys found when wiring his brew house. A

Coal Valley Porter

Ingredients for 25 gallons (0.95 hl)

4.0 lb	(18.14 kg) English Pale Malt
2.0 lb	(0.91 kg) black patent malt
1.0 lb	(0.45 kg) roasted barley
1.0 lb	(0.45 kg) chocolate malt
0.5 lb	(0.23 kg) Cluster bittering hop pellets (60 min.)
1.0 lb	(0.45 kg) Tettnanger fresh aroma hops (10 min.)
	English Ale liquid yeast

Wort Boil Time: 1 hour

Directions

When using cast iron boiling kettles, first condition them by building a hot hardwood fire in them, then rinse them well by boiling water in them.

Single infusion mash at 150°F (65.5°C) to 155°F (68.3°C) for 1.5 hours with 1 quart (4.7 liters) water to 1 pound (0.45 kg) of grain, which is easily done due to the larger volumes of mash. Standard sparge at 0.5 gallon (1.89 liters) water per pound of grain.

Fermentation takes place in crocks in outdoor sheds, where Kansas fall temperatures fluctuate between 40°F (4.4°C) and 60°F (15.5°C). When the beer becomes still after one or two weeks, we rack into carboys for another month, then carbonate with a half-cup of corn sugar to 5 gallons (18.93 liters) of beer.

Due to the huge number of variables in these outdoor recipes, the results vary, but are always tasty and fun.

builder splitting shingles on the roof must have accidentally dropped it between the wall studs nearly a century ago.

After the mash cooks for about an hour, it's transferred to the lauter tun, "Osama Mama". At the time they found it online, Osama Bin Laden was big news. This 40-gallon Red Wing crock with a bunghole in the bottom was larger than life, too, so they called it the "Osama Mama" crock. They drove to Illinois to pick it up. The false bottom in the tun? In a former life, it was the bottom of the Sotta kids' wading pool.

"I know hobbyists get pretty carried away with all those numbers, but we kind of do it by taste," Sotta says. "What they're measuring is their yields of sugar out of the grain. We've done it enough, though, that we know what it should taste like, how sweet it should be. As you sparge the grains they get less and less sweet. Since Erik and I are constantly tasting it, we can tell when we have a good yield."

Primary fermentation takes place in antique crocks. They cover the tops with plastic wrap, then with a heavy cloth.

"We do that a certain number of days according to the recipe," Sotta says, "but these are pretty large vessels and they're pretty much outdoors, at least on this farm. I keep them out in my brew shack. Whatever the temperature is out there, that's what it's gonna be. So we generally gauge it by the way it looks. And I do some tasting."

The aroma emanating from 70 gallons of beer in the brew house is overwhelming. After one to two weeks of primary fermentation in the crocks, the beer is usually put into carboys, where it becomes more of a closed traditional system. Sometimes the crocks are used for secondary fermentation as well.

"I don't think we've ever followed a recipe to a tee," Sotta admits. "What we do is we look for a recipe for the style of beer we want to make. Because we've done it enough times, we know what to go a little long on, or a little short on, to make it more to our liking. We just pick out a few recipes and kind of

combine them and then put in our own little twist."

Brewing in cast iron suits the "heartier, heavier" types of beers that Peterson and Sotta enjoy. But "we made a light lager once that turned out extremely well," said Peterson, observing that some of their lighter beers impart a smoky flavor.

The two do a lot of planning and have a 10-book brewing library between them, usually looking up two or three questions for every recipe. Despite that, their brew fests are not without fiascoes.

"Last year I was at work, and when I came back Erik and Steve [Streufert, a friend who had brought farm-fresh hops from the Willamette Valley] had started the first batch on their own. Erik was reading our recipe that we'd made up, and he misread it," Sotta remembers.

Peterson said the porter recipe called for mixing equal parts black patent malt, chocolate malt and roasted malt. "I ended up putting all the black patent malt in the

Kansas Common

Ingredients for 25 gallons (0.95 hl)

50.0 lb	(22.68 kg) Six-row American Pale Malt
5.0 lb	(2.27 kg) Carapils
0.5 lb	(0.23 kg) Northern Brewer bittering hop pellets (60 min.)
1.0 lb	(0.45 kg) Cascade aroma hop pellets (5 min.)

California Lager liquid yeast

Wort Boil Time: 1 hour

first batch, pounds and pounds of it. Light wouldn't penetrate it. It had the consistency of motor oil. But we loved the stuff."

Karen Peterson is a retired high school library media specialist. She lives with her four helpful felines in Manhattan, Kan., where she owns Sassy-Cats Designs.



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ETHIOPIA'S IMPERIAL MEAD

IN 1185, A KING WAS BORN IN ROHA,
A SMALL TOWN NESTLED INTO THE NORTHERN END OF
ETHIOPIA'S MAJESTIC HIGHLANDS, RISING MORE THAN 3,000 METERS
INTO THE SKY. LEGEND HAS IT THAT WHEN THE CHILD WAS BORN,
A SWARM OF BEES GATHERED AROUND HIS HEAD. THIS WAS INTERPRETED AS
A SIGN OF THE CHILD'S ROYAL DESTINY. THUS HE WAS NAMED LALIBELA,
MEANING, "THE BEES RECOGNIZE HIS SOVEREIGNTY."

BY CHRIS O'BRIEN

LALIBELA WENT ON TO BECOME ONE OF ETHIOPIA'S
MOST ADMIRED HOLY RULERS, CONSTRUCTING 11 MAGNIFICENT CHURCHES
THAT GOD HAD REVEALED TO HIM IN A DREAM. ETHIOPIANS BELIEVE THE
ARCHITECTURAL FEAT WAS ACCOMPLISHED WITH THE HELP OF ANGELS.
THE TOWN OF ROHA WAS LATER RENAMED LALIBELA IN HONOR OF
THIS DEDICATED SERVANT OF GOD.



Perhaps God was smiling on me when I decided to journey to this mythic and holy town. The churches were remarkable, carved straight from the solid living rock of the mountains. Thousands of pilgrims come to Lalibela every year to visit these testaments to Ethiopia's ancient Christian empire. This is the reason I had trekked to this remote destination. It is not, however, the reason why I would later return.

Ethiopia's national drink is t'ej, a type of mead often mixed with a variety of herbs and fruits. I have tasted numerous samples of it in Addis Ababa, Ethiopia's capital city, but drinking Lalibela t'ej is an otherworldly experience, as if a gift of the same providence that had crowned the baby Lalibela with a ring of divine honeybees. In Addis Ababa, the quality of t'ej is highly variable, sometimes with significant amounts of sugar replacing the honey as a source of cheap fermentables. It is typically served in traditional restaurants and in t'ej houses, or *t'ej bet*. But even the best t'ej in Addis Ababa was no rival for the sweet, golden elixir I drank in Lalibela.

My first taste of it was a spiritual experience. Indeed, I was accompanied in my tasting by a deacon from one of the famous rock-hewn churches. We settled ourselves on a simple cement bench covered with animal hides in the front room of a t'ej bet no more than a stone's throw from the complex of historic churches. The t'ej is contained within a wooden or plastic barrel in a back room and decanted in "birille," special vase-shaped glasses reserved exclusively for the imbibing of t'ej. Lalibela is one of the few places to continue using an older, long-neck design for their birille rather than the squat, lipped-neck birille found elsewhere.

A properly served birille of t'ej is filled to the very rim so that the drinker can, with a deft movement of the wrist, tip out the bits of honeycomb floating on the top of the beverage. I mimicked my companion in this ritual and proceeded to tilt the glass to my lips, holding the top of the neck between my thumb and forefinger. The sweet, nutty taste was divine. And why wouldn't it be? T'ej brewed in Lalibela is fermented from honey made by bees that can foretell the future.

T'ej Then and Now

Historically, the right to drink t'ej was reserved exclusively for royalty. On their travels, Ethiopian kings and emperors had their carriers bear great hollowed logs filled with t'ej. Church history also acknowledges the noble nature of the drink.

Murals in Ethiopian churches depict the biblical scene of King Herod, Salome and John the Baptist. As the story goes, Salome enchanted Herod with sensual



The proprietor of Lalibela's best t'ej house enjoys a refreshing birille after a long day.

A handful of gesho is displayed by a tela (beer) homebrewer.



song and dance. Once under her charms, Salome demanded that Herod behead John the Baptist, her mother's sworn enemy. In this scene, the murals always depict Herod imbibing t'ej from regal, long-necked birille.

In recent centuries though, Ethiopian emperors such as the renowned Haile Selassie I extended the right to drink t'ej to commoners. T'ej became the drink for special occasions, brewed by female household heads for weddings, naming ceremonies and religious holidays. But today, t'ej has lost much of its dignified luster. As urban centers like Addis Ababa (population greater than 2.7 million) expand and agrarian-based lifestyles are adapted to modern industrial society, alcoholism is appearing more frequently.

Compared to bottled lagers (widely available in Ethiopia, and of good quality), t'ej is stronger and much cheaper and therefore has become the drink of choice for impoverished men, many of whom are refugees from the countryside who have fled to the city in search of opportunity but have instead found loneliness and despair. Cheap alcohol is an easy escape

from the cruelty of the city. Nowadays, t'ej is more often associated with excessive drinking bouts in debauched t'ej halls than with royal ceremony.

It is in these t'ej halls where the quality also suffers the most. I have seen t'ej brewed with as much as 8 pounds of sugar to 1 pound of honey, and with



Three samples of Ethiopian honey are presented by an exporter in Addis Ababa's *Mercado*—the largest market in Africa.

chemical food colorings added to provide the yellow color that would have come from the honey. The intention is to make a cheap and potent drink that steals what's left of the drink's regal reputation.

It is this degradation of t'ej, both to its social standing as well as its quality that inspired Ato Dereje to start a company called Tizeta T'ej. Dereje believes that it is possible for t'ej to retain what's left of its respectability and even to regain an esteemed place within Ethiopian culture. His approach is to maintain strict standards of top quality 100-percent honey formulations, and to give the beverage an attractive wine-like packaging and a label that indicates strength. Dereje holds that t'ej must exude a more sophisticated

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image, appealing to mature customers who can still recall the days when t'ej held a place of honor at high occasions.

His line of Tizeta T'ej is now marketed through grocery stores and restaurants around Addis Ababa, marking the first real attempt to bring the drink into a

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modern economy where it can compete against expensive imported wines and liquors while promoting a uniquely Ethiopian drinking custom.

His efforts thus far have proven successful and he is now looking forward to the day when, just like bottles of merlot, his t'ej is exported around the world to connoisseurs of excellent, regionally distinctive drinks.

As Diverse as Ethiopia Itself

T'ej reflects the diversity of its country. Ethiopia is home to more than 80 different ethnic groups and as many languages. The landscape runs from the



Hollowed-out antique logs used to carry many gallons of t'ej for King Abba Jiffar, once the ruler of Jimma, the world's birthplace of coffee.

lowest point in Africa, the Danakil Depression, (lower than 155 meters) where the early hominid skeletal remains named Lucy were discovered; to Ras Dashen (4620 meters) in the north, which is one of Africa's highest peaks. Over 80 percent of the waters comprising the Nile River flow from Ethiopia's watersheds, and yet huge southern and eastern parts of the country are arid desert. To the south and west are remote tropical forests that still contain elephants, lions, zebras and other large wildlife. The country also has a reputation as a bird watcher's paradise, containing hundreds of species, dozens of which are endemic.

The raw wildflower honey from the highlands of Ethiopia forms the base of t'ej. Mix the honey with water, allow a wild fermentation to occur, and you have t'ej in its most basic form. Typically, there is also an addition of a plant called gesho in Amharic (*Rhamnus prinoides*), which is a member of the buckthorn family of shrubs and small trees.

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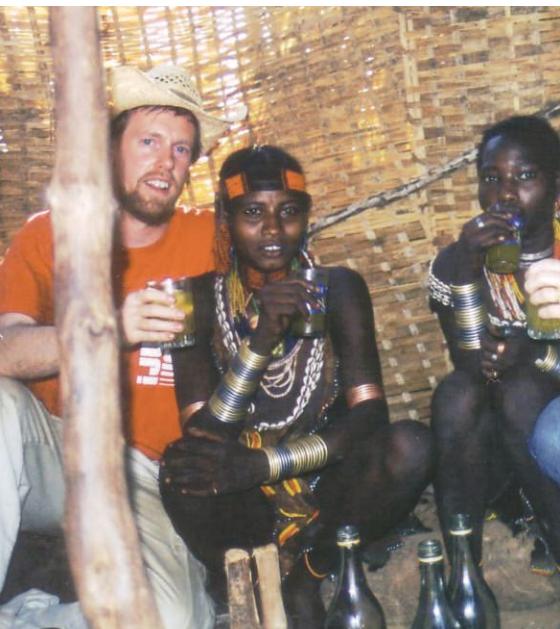


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A t'ej maker (in blue smock) and his older brother at an urban t'ej bar.



Author Chris O'Brien drinking t'ej in the Omo Valley with two girls from the Hamer ethnic group. "They outdrank me two-to-one!"

Gesho can be used in different ways, but a common one is to boil the stripped branches (though sometimes the leaves are used) with a portion of the must. This addition is useful as a preservative as well as a bittering and herbal flavor component. In this procedure, one part honey is first mixed with two to five parts water and allowed to ferment from one to several days before the addition of the boiled gesho. The entire brew is then fermented for as long as a few months or as little as a few days.

Gallibrew T'ej

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

10.0 lb	(4.5 kg) honey
1.5 lb	(0.7 kg) Ethiopian gesho (twigs preferable to shreds or powder)
3 sticks	cinnamon, cracked (optional)
3.0 oz	(0.08 kg) ginger; grated (optional)
0.25 tsp	yeast nutrients

White Labs WLP 720 or Wyeast 3184

**Original Target Gravity: 1.070
Final Target Gravity: 1.006**

Directions

Boil 2.5 gallons of water in a 5-gallon pot, add gesho twigs and simmer 15 minutes. If you add cinnamon add it with gesho for boil. Cut heat and add ginger if desired. Slowly stir in honey until dissolved. Cool if necessary and add to fermenter. Top up with water to 5 gallons. Pitch sweet mead yeast. Ferment for five days. Rack off of gesho. Store in secondary until cessation of fermentation (approximately 15-20 days). T'ej can be cloudy. Bottle t'ej as a still wine. Enjoy right away.

A fun experiment is to split the batch, fermenting half with a known yeast and the other half allowing for spontaneous wild fermentation.

However, it is not uncommon for gesho to be added directly to the honey without any boiling, essentially like a dry or wet hopping in the primary fermenter. It is also common to strain the gesho out after a primary fermentation and rack off into a secondary.

I have tasted t'ej flavored with lemon, garlic, coffee, onion and a number of spices for which I could not find translations. T'ej is almost always an opaque yellow, but can be as bright as orange juice or as dark as a deep amber. T'ej can be dry or sweet, though it normally tends toward the sweeter side. On the shorter

end of the fermentation spectrum is a very sweet, effervescent, low-alcohol version called berz. Much stronger versions also exist but are generally reserved for the most special of occasions. One study of t'ej producers in Addis Ababa showed alcohol contents that ranged from 2.7 to 21.7 percent ABV, with the majority of samples falling in a range between 5.1 to 10 percent ABV. However, since these were samples of commercial t'ej in an urban center, they were probably significantly higher in alcohol than most t'ej that is homebrewed throughout the rural countryside,

(continued on page 43)

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BY MARTY JONES

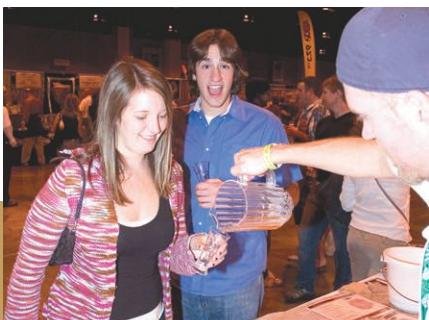
A larger load of beers, attendees and excitement marked the 24th edition of the Great American Beer Festival® September 29 through October 1 at Denver's Colorado Convention Center. The 2005 GABF was a numbers fest that echoed the current growth in the U.S. craft beer market.

For starters, this year's festival floor presented a record number (1,672) of U.S. beers, giving the GABF the distinction of presenting the biggest selection of U.S. brews ever gathered in one spot. The 377 brewers behind these beers also made for the biggest number represented at the festival. Better still, the fest sported impressive numbers of its own in the crowd of 29,500 beer lovers who came to enjoy these liquid treats.

The boost in attendance was some 1,500 more than 2004's record-setting numbers. "This was the best festival yet," proclaimed Nancy Johnson, who heads up the GABF. "People are more interested than ever in craft beer."

Further proof of that affection was reflected in figures (released just prior to the GABF) showing that the 7-percent growth in craft beer sales from 2004 continued for the first half of 2005. The news added a palpable sense of excitement and optimism for attending craft brewers. "People are very excited about how our industry is going this year," noted Allagash Brewing president and brewmaster Rob Tod.

Of course, the stars of the fest were the beers. As they do each year, the genre-bending brews from the craft segment's style-breakers held some of the largest, most eager crowds. At Dogfish Head's booth, Sam Calagione quickly served 1-ounce pours of his head-turning beers to lines of fans while barking out rapid-fire beer descriptions between grins and high fives. The drawing power of his and other out-there brews were proof that pushing boundaries, with a healthy dash of humor (Liquor de Malt, anyone?), are a way to keep consumers amped-up about craft beer.



At New Glarus Brewing's booth, attendees lined up for sips of Daniel Carey's otherworldly fruit beers, dreamy creations that thrill festgoers every year. (A taste of New Glarus' cherry-enhanced Wisconsin Belgian Red is the sure tool for silencing a fruit beer cynic at the GABF.) In the festival's West Coast section, the collected brews were a hit with Colorado beer lovers. Nathan Moore, a Denver-based beer fiend, summed up the section's appeal. "This," he noted, "makes a great beer festival by itself." Stars of the section included Pizza Port, where Tomme Arthur's barrel-aged and Belgian-style brews were again a festival favorite. The same was true for the similar brews from Russian River.

At these breweries' tables, one could spot patrons who stepped away from the table to savor their serving, only to take a sip of beer and turn on their heels to go back for more. In the Northeast section, Cambridge Brewing Company's heady offerings rivaled Pizza Port's, even if the brewery's table didn't have big, buzzing crowds. Instead, one would find Cambridge brewer Will Meyers quietly pouring jaw-dropping servings to knocked-out visitors, many who stopped by on raving word-of-mouth recommendations.

Perhaps in light of the rising star power of more adventurous beer styles, some breweries used the festival to debut new beers and flex their creative muscles before their fans. New Belgium left its ubiquitous flagship Fat Tire and other bottled staples back at the brewery. Instead, the company showcased a few small-batch brews, most served only at the Fort Collins brewery's tasting room. The company's festival beers included one cult favorite (*La Folie*) and a few Belgian-style creations from brewmaster Peter Bouckaert and his crew.

The standout, Le Terroir, was a honey-colored, slightly soured creation marked by tang and refreshing appeal. These beers are



not slated for production, noted NB's Bryan Simpson. "I suppose if one went gangbusters and grabbed a couple golds, we'd look at it," Simpson said. "This was a way to experiment, be playful, and remain engaging and creative."

Attendees saw a few nice improvements to the festival. Whereas last year's food and beer pairings demonstrations were at the rear of the festival floor, this year's were at center court, in an enclosed setting. Garrett Oliver and Bruce Patton's tag-team food and beer demo played to a full room of beer-loving foodies, as did the event's other cuisine-meets-craft-beer seminars. The crowds (and some big coverage in the Colorado press) were welcome achievements for a fest on a mission to educate consumers and cooks on the need for better beer in fine eateries.

Saturday's awards ceremony featured the usual mix of drama, back slapping and surprises. Denver mayor (and Wynkoop Brewing Company founder) John Hickenlooper opened the ceremony before turning the stage over to the Brewers Association for medal presentations. First a series of awards recognized the accomplishments of beer journalism's best, including Fred Eckhardt in the trade press category for his piece on beer and chocolate that appeared in *All About Beer* magazine. Ken Wells, the *Wall Street Journal*'s beer writer and author of the excellent *Travels With Barley*, picked up the consumer press award. His WSJ beer pieces have put craft beer in the minds of the nation's most sought after (and expansive) readership, to the delight of the craft

niche's leaders. Mike Reidel and Sandy Riesgraf won the electronic media award for their story on Squatter's Brewpub brewer Jennifer Talley, which appeared on the Salt Lake City Fox News affiliate.

As the medals were announced for the 69 styles in the blind judging part of the GABF, the elbow-to-elbow crowd of brewers, media and beer nuts peppered each announcement with cheers and occasional groans. Alaskan Brewing's 2005 win for its Smoked Porter received a huge round of applause, as it does every year. One brewery rep wondered aloud whether the perennial winner should be moved into a new hall-of-fame, no-compete category so others might have a chance at gold.

All told, the 2005 Great American Beer Festival delivered a winning combination of great American beers, beer-blessed industry fellowship and consumer appreciation. The city of Denver got to enjoy its annual week as the center of the nation's beer universe, and the festival's success showcased the current—and very sunny—state of craft beer affairs. "As positive as everything was," noted Nancy Johnson, "it shows the health of the craft beer segment. It seems like it's firing on all cylinders, and it all came together at the festival."

Marty Jones splits his time between being a "man about foam," writing for and about the craft beer industry, and serving as lead singer of the band Marty Jones and the Pork Boiling Poor Boys.



GREAT AMERICAN BEER FESTIVAL WINNERS

Category: 1 Non-Alcoholic (Beer) Malt Beverage - 5 Entries

- Gold: O'Doul's Amber, Anheuser-Busch, St. Louis, MO
 Silver: Sharp's, Miller Brewing Co., Milwaukee, WI
 Bronze: O'Doul's, Anheuser-Busch, St. Louis, MO

Category: 2 American Cream Ale or Lager - 17 Entries

- Gold: TAPS Cream Ale, TAPS Fish House & Brewery, Brea, CA
 Silver: Genesee Cream Ale, High Falls Brewing Co., Rochester, NY
 Bronze: Special Export, Pabst Brewing Co., San Antonio, TX

Category: 3 American-Style Wheat Beer - 21 Entries

- Gold: Triumph Honey Wheat, Triumph Brewing Co. of New Hope, New Hope, PA
 Silver: Pyramid Crystal Weizen, Pyramid Breweries, Seattle, WA
 Bronze: Shiner Dunkelweizen, The Spoetzl Brewery, San Antonio, TX

Category: 4 American-Style Hefeweizen - 31 Entries

- Gold: Easy Street Wheat, Odell Brewing Co., Fort Collins, CO
 Silver: Faller Wheat Ale, Rock Bottom Brewery - Seattle, Seattle, WA
 Bronze: O'Fallon Wheat, O'Fallon Brewery, O'Fallon, MO

Category: 5 Fruit and Vegetable Beer - 51 Entries

- Gold: Belgian Red, New Glarus Brewing Co., New Glarus, WI
 Silver: 9th Street Market Tuscan Orange, Anheuser-Busch, St. Louis, MO
 Bronze: De Zuidentrein Frambozenbier, Flossmoor Station Brewing Co., Flossmoor, IL

Category: 6 Herb and Spice Beer - 57 Entries

- Gold: Temptation Bock, Miller Brewing Co., Milwaukee, WI
 Silver: Jack Whacker Wheat, Tommyknocker Brewery, Idaho Springs, CO
 Bronze: Avatar Jasmine IPA, Elysian Brewing - TangleTown, Seattle, WA

Category: 7 Coffee Flavored Beer - 26 Entries

- Gold: Kona Moon, Six Rivers Brewery, McKinleyville, CA
 Silver: Double Espresso Stout, Barley Brothers Brewery & Grill, Lake Havasu City, AZ
 Bronze: Arctic Rhino Coffee Porter, Midnight Sun Brewing Co., Anchorage, AK

Category: 8 Specialty Beer - 20 Entries

- Gold: Wild Rice Ale, Black Diamond Brewing Co., Concord, CA
 Silver: Neptune's Nemesis, Rocky River Brewing Co., Rocky River, OH
 Bronze: Pullman Brown Ale, Flossmoor Station Brewing Co., Flossmoor, IL

Category: 9 Rye Beer - 23 Entries

- Gold: Rocky Mountain Rye, Smuggler's Brewpub, Telluride, CO
 Silver: Crazy Jackass Ale, Great American Restaurants, Centreville, VA
 Bronze: Catch Her In the Rye, Olde Auburn Ale House, Auburn, AL

Category: 10 Specialty Honey Lager or Ale - 22 Entries

- Gold: George's Fault, Nodding Head Brewing Co., Philadelphia, PA
 Silver: Midas Touch Golden Elixir, Dogfish Head Craft Brewery, Milton, DE
 Bronze: Ella's Epidur-Ale, Flossmoor Station Brewing Co., Flossmoor, IL

Category: 11 Experimental Beer (Lager or Ale) - 37 Entries

- Gold: Mexacali Smoke, Rocky River Brewing Co., Rocky River, OH
 Silver: ESG Extra Special Gonzo, Flying Dog Brewery, Denver, CO
 Bronze: Samuel Adams Millennium, Boston Beer Co., Boston, MA

Category: 12 Wood- and Barrel-aged Beer - 75 Entries

- Gold: Cherry Stout, New Glarus Brewing Co., New Glarus, WI
 Silver: A Butt of Gibraltar, Rock Bottom Brewery - South Denver, Englewood, CO
 Bronze: Hout, Ballast Point Brewing Co., San Diego, CA

Category: 13 Cellar or Unfiltered Beer - 24 Entries

- Gold: Copper Hill Kölsch, The Cambridge House, Granby, CT
 Silver: Honolua Lager, Maui Brewing Co./Fish & Game Rotisserie, Lahaina, HI
 Bronze: Toppers' Hop Pocket Pils, Old Dominion Brewing Co., Ashburn, VA

Category: 14 Smoke-Flavored Beer - 23 Entries

- Gold: Alaskan Smoked Porter, Alaskan Brewing Co., Juneau, AK
 Silver: Second Hand Smoke, SandLot Brewery at Coors Field, Denver, CO
 Bronze: Rauchator Doppelbock, The Fort Collins Brewery, Fort Collins, CO

Category: 15 German-Style Pilsener - 35 Entries

- Gold: Pinch Hit Pilsner, SandLot Brewery at Coors Field, Denver, CO
 Silver: Trumer Pils, Trumer Brauerei Berkeley, Berkeley, CA
 Bronze: Triumph German Pilsener, Triumph Brewing Co. of New Hope, New Hope, PA

Category: 16 Bohemian-Style Pilsener - 43 Entries

- Gold: Pallavicini Pilsner, Pug Ryan's Brewery, Dillon, CO
 Silver: Triumph Czech Pilsener, Triumph Brewing Co. of Princeton, Princeton, NJ
 Bronze: Vermont Lager, Otter Creek Brewing/Wolaver's Organic Beers, Middlebury, VT

Category: 17 Münchner-Style Helles - 30 Entries

- Gold: Hauptstrasse Helles, Fredericksburg Brewing Co., Fredericksburg, TX
 Silver: Saint Arnold Summer Pils, Saint Arnold Brewing Co., Houston, TX
 Bronze: Sudwerk Lager, Sudwerk Privatbrauerei Hübsch, Davis, CA

Category: 18 European-Style Pilsener - 24 Entries

- Gold: Pine Mountain Pils, Deschutes Brewery, Bend, OR
 Silver: Most Beer Judges Are Bone Heads, SandLot Brewery at Coors Field, Denver, CO
 Bronze: Pilsner - 500, Prescott Brewing Co., Prescott, AZ

Category: 19 American-Style Light Lager - 25 Entries

- Gold: Old Milwaukee Light, Pabst Brewing Co., San Antonio, TX
 Silver: Coors Light, Coors Brewing Co., Golden, CO
 Bronze: Keystone Light, Coors Brewing Co., Golden, CO

Category: 20 American-Style Low-Carbohydrate Light Lager - 4 Entries

- Gold: Pig's Eye Lean Light Beer, Pig's Eye Brewing Co., St. Paul, MN
 Bronze: Mountain Light, Smoky Mountain Brewery, Knoxville, TN

Category: 21 American-Style "Light" Amber Lager - 7 Entries

- Gold: Sam Adams Light, Boston Beer Co., Boston, MA
 Silver: MoJo Lager, Starr Hill Brewing Co., Crozet, VA
 Bronze: Shiner Light, The Spoetzl Brewery, San Antonio, TX

Category: 22 American-Style Lager - 15 Entries

- Gold: Stag, Pabst Brewing Co., San Antonio, TX
 Silver: Rainier, Pabst Brewing Co., San Antonio, TX
 Bronze: Milwaukee's Best, Miller Brewing Co., Milwaukee, WI

Category: 23 American-Style Premium Lager - 19 Entries

- Gold: Pabst Blue Ribbon, Pabst Brewing Co., San Antonio, TX
 Silver: Olympia, Pabst Brewing Co., San Antonio, TX
 Bronze: Miller High Life, Miller Brewing Co., Milwaukee, WI

Category: 24 American-Style Specialty Lager - 20 Entries

- Gold: Barmen Pilsner, SandLot Brewery at Coors Field, Denver, CO
 Silver: Melvis Easly's Special Lager, SandLot Brewery at Coors Field, Denver, CO
 Bronze: Ice House, Miller Brewing Co., Milwaukee, WI

Category: 25 Vienna-Style Lager - 27 Entries

- Gold: Rocktoberfest 2, Rock Bottom Brewery - Long Beach, Long Beach, CA
 Silver: Genesee Red Lager, High Falls Brewing Co., Rochester, NY
 Bronze: Schild Brau Amber, Millstream Brewing Co., Amana, IA

Category: 26 German-Style Märzen / Oktoberfest - 50 Entries

- Gold: Michelob Marzen, Anheuser-Busch, St. Louis, MO
 Silver: Sudwerk Marzen, Sudwerk Privatbrauerei Hübsch, Davis, CA
 Bronze: Dogtoberfest Octoberfest, Flying Dog Brewery, Denver, CO



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Category: 27 American-Style Amber Lager - 44 Entries

- Gold: Old Scratch Amber Lager, Flying Dog Brewery, Denver, CO
Silver: Steam Engine Lager, Steamworks Brewing Co., Durango, CO
Bronze: California Lager, Schooner's Grille & Brewery, Antioch, CA

Category: 28 European-Style Dark / Münchner Dunkel - 20 Entries

- Gold: Munich Dark, Capital Brewery Co., Middleton, WI
Silver: Triumph Dunkel, Triumph Brewing Co. of New Hope, New Hope, PA
Bronze: Black Mountain, Barley's Casino & Brewing Co., Henderson, NV

Category: 29 American-Style Dark Lager - 9 Entries

- Gold: Leinenkugel's Creamy Dark, Jacob Leinenkugel Brewing Co., Chippewa Falls, WI
Silver: Shiner Bock, The Spoetzl Brewery, San Antonio, TX
Bronze: Darth's Dark Lager, Redwood Brewing Co., Flint, MI

Category: 30 German-Style Schwarzbier - 21 Entries

- Gold: E.J. Phair Schwarzbier, E.J. Phair Brewing Co., Concord, CA
Silver: Kings Peak, Uinta Brewing Co., Salt Lake City, UT
Bronze: Schwarzbier, Hereford & Hops Brewpub, Wausau, WI

Category: 31 Bock - 27 Entries

- Gold: Mad Brewer Maibock, Church Brew Works, Pittsburgh, PA
Silver: Goat Rancher, Sandlot Brewery at Coors Field, Denver, CO
Bronze: J.W. Dundee's Pale Bock, High Falls Brewing Co., Rochester, NY

Category: 32 German-Style Strong Bock - 25 Entries

- Gold: Samuel Adams Double Bock, Boston Beer Co., Boston, MA
Silver: Sled Dog Doppel Bock, Wagner Valley Brewing Co., Lodi, NY
Bronze: Detonator Doppelbock, Big Horn Brewing Co./RAM - Indianapolis, Indianapolis, IN

Category: 33 Golden or Blonde Ale - 46 Entries

- Gold: Kiwanda Cream Ale, Pelican Pub & Brewery, Pacific City, OR
Silver: Boscos Famous Flaming Stone Beer, Boscos Brewing Co. - AR, Little Rock, AR
Bronze: All Nighter, Chicago Brewing Co., Las Vegas, NV

Category: 34 German-Style Kölsch / Köln-Style Kölsch - 39 Entries

- Gold: Bottom's Up Kölsch, Rock Bottom Brewery - Campbell, Campbell, CA
Silver: Claire de Lune, Moon River Brewing Co., Savannah, GA
Bronze: Kentucky Light, Alitech's Lexington Brewing Co., Lexington, KY

Category: 35 English-Style Summer Ale - 24 Entries

- Gold: Colorado Trail English Ale, Backcountry Brewery, Frisco, CO
Silver: Sandbagger Gold, Montana Brewing Co., Billings, MT
Bronze: Green Flash Extra Pale Ale, Green Flash Brewing Co., Vista, CA

Category: 36 Classic English-Style Pale Ale - 24 Entries

- Gold: Michelob Pale Ale, Anheuser-Busch, St. Louis, MO
Silver: 5 Barrel Pale Ale, Odell Brewing Co., Fort Collins, CO
Bronze: Samuel Adams Pale Ale, Boston Beer Co., Boston, MA

Category: 37 English-Style India Pale Ale - 32 Entries

- Gold: Sierra Nevada IPA, Sierra Nevada Brewing Co., Chico, CA
Silver: Squatters IPA, Utah Brewers Cooperative, Salt Lake City, UT
Bronze: 1800, Minneapolis Town Hall Brewery, Minneapolis, MN

Category: 38 American-Style Pale Ale - 74 Entries

- Gold: Pale Nectar, Firestone Walker Brewing Co., Paso Robles, CA
Silver: Oak Creek Pale Ale, Oak Creek Brewing Co., Sedona, AZ
Bronze: Ironbound Ale, Iron Hill Brewery & Restaurant #1, Wilmington, DE

Category: 39 American-Style Strong Pale Ale - 69 Entries

- Gold: Dysfunctional, Piece Brewing Co., Chicago, IL
Silver: Racer, Bear Republic Brewing Co., Healdsburg, CA
Bronze: Hoptical Illusion, Blue Point Brewing Co., Patchogue, NY

Category: 40 American-Style India Pale Ale - 102 Entries

- Gold: Castle Rock IPA, Santa Barbara Brewing Co., Santa Barbara, CA
Silver: Torrey Pines IPA, Oggi's Pizza & Brewing Co., San Clemente, CA
Bronze: I.P.A., AleSmith Brewing Co., San Diego, CA

Category: 41 Imperial or Double India Pale Ale - 59 Entries

- Gold: Pliny the Elder, Russian River Brewing Co., Santa Rosa, CA
Silver: Hop 15, Pizza Port Solana Beach, Solana Beach, CA
Bronze: Eldridge Grade White Knuckle Double IPA, Marin Brewing Co., Larkspur, CA

Category: 42 American-Style Amber / Red Ale - 60 Entries

- Gold: Amber Waves Ale, Capitol City Brewing Co., Arlington, VA
Silver: Sunset Amber Ale, Oggi's Pizza & Brewing Co., San Clemente, CA
Bronze: Hoppus Maximus, Thirsty Dog Brewing Co., Independence, OH

Category: 43 Imperial or Double Red Ale - 25 Entries

- Gold: Shark Attack, Pizza Port Solana Beach, Solana Beach, CA
Silver: Tongue Buckler, Ballast Point Brewing Co., San Diego, CA
Bronze: Imperial Red, Eugene City Brewery, Eugene, OR

Category: 44 Bitter - 30 Entries

- Gold: Alaskan Boogie Bitter, Alaskan Brewing Co., Juneau, AK
Silver: Firehouse ESB, Upstream Brewing Co., Omaha, NE
Bronze: Saint Arnold Amber Ale, Saint Arnold Brewing Co., Houston, TX

Category: 45 Extra Special Bitter or Strong Bitter - 55 Entries

- Gold: Boscos XXX Pale Ale, Boscos Brewing Co. - TN, Memphis/Nashville, TN
Silver: Alaskan ESB, Alaskan Brewing Co., Juneau, AK
Bronze: Tinderstick ESB, Big Time Brewing Co., Seattle, WA

Category: 46 Scottish-Style Ale - 25 Entries

- Gold: Royal Oak Red, The Royal Oak Brewery, Royal Oak, MI
Silver: MacPelican's Scottish Style Ale, Pelican Pub & Brewery, Pacific City, OR
Bronze: Laughing Lab Scottish Ale, Bristol Brewing Co., Colorado Springs, CO

Category: 47 Irish-Style Red Ale - 27 Entries

- Gold: Irish Red, Diamond Bear Brewing Co., Little Rock, AR
Silver: Amber Ale, Starr Hill Brewing Co., Crozet, VA
Bronze: Cleary Red, Hereford & Hops Brewpub, Wausau, WI

Category: 48 English-Style Brown Ale - 52 Entries

- Gold: Nut Brown Ale, Long Valley Pub & Brewery, Long Valley, NJ
Silver: Alice B. Brownie, Big Horn Brewing Co./CB-Potts - Westminster, Westminster, CO
Bronze: Dawn Patrol Dark, Pizza Port Carlsbad, Carlsbad, CA

Category: 49 American-Style Brown Ale - 37 Entries

- Gold: Bitch Creek ESB, Grand Teton Brewing Co., Victor, ID
Silver: Doryman's Dark Ale, Pelican Pub & Brewery, Pacific City, OR
Bronze: Ellie's Brown Ale, Avery Brewing Co., Boulder, CO

Category: 50 German-Style Brown Ale / Düsseldorf-Style Altbier - 26 Entries

- Gold: Devon Altbier, John Harvard's Brew House #2, Springfield, PA
Silver: Green Flash Ruby Red Ale, Green Flash Brewing Co., Vista, CA
Bronze: Dusseldorf Altbier, Gilded Otter Brewing Co., New Paltz, NY



Category: 51 South German-Style Hefeweizen/Hefeweissbier - 54 Entries

- Gold: Top Heavy, Piece Brewing Co., Chicago, IL
Silver: Weathervane Weissbier, Jarre Creek Ranch Brewery, Castle Rock, CO
Bronze: Wild Pitch Hefeweizen, SandLot Brewing at Coors Field, Denver, CO

Category: 52 German-Style Wheat Ale - 27 Entries

- Gold: Boscos Hefeweizen, Boscos Brewing Co. - TN, Memphis/Nashville, TN
Silver: Weizenbock, Chicago Brewing Co., Las Vegas, NV
Bronze: Ich Bin Ein Berliner Weisse, Nodding Head Brewing Co., Philadelphia, PA

Category: 53 Belgian-Style White (or Wit) / Belgian-Style Wheat - 42 Entries

- Gold: White Beer, Allagash Brewing Co., Portland, ME
Silver: Alabaster Wit, Oaken Barrel Brewing Co., Greenwood, IN
Bronze: Nit Wit, BJ's Restaurant & Brewery – Chandler, AZ/Boulder, CO

Category: 54 French-Belgian-Style Saison - 24 Entries

- Gold: Saison de Brooklyn, The Brooklyn Brewery, Brooklyn, NY
Silver: Southampton Saison, Southampton Publick House, Southampton, NY
Bronze: Stillwater Rye, Montana Brewing Co., Billings, MT

Category: 55 Belgian- and French-Style Ale - 19 Entries

- Gold: Matilda, Goose Island Beer Co., Chicago, IL
Silver: Biere de Garde, Capitol City Brewing Co., Arlington, VA
Bronze: Oro de Calabaza, Jolly Pumpkin Artisan Ales, Dexter, MI

Category: 56 Belgian-Style Sour Ale - 24 Entries

- Gold: Kriek De Hill, Iron Hill Brewery & Restaurant #3, Wilmington, DE
Silver: Supplication, Russian River Brewing Co., Santa Rosa, CA
Bronze: Gueuze-Lambic, Upstream Brewing Co., Omaha, NE

Category: 57 Belgian-Style Abbey Ale - 46 Entries

- Gold: Abbot 12, Southampton Publick House, Southampton, NY
Silver: Tripel de Ripple, Brugge Brasserie, Indianapolis, IN
Bronze: Abbey Belgian Style Ale, New Belgium Brewing Co., Fort Collins, CO

Category: 58 Belgian-Style Strong Specialty Ale - 47 Entries

- Gold: Belgian Strong, Iron Hill Brewery & Restaurant #3, Wilmington, DE
Silver: Belgian Abbey Ale, Maui Brewing Co./Fish & Game Rotisserie, Lahaina, HI
Bronze: Grand Cru, Allagash Brewing Co., Portland, ME

Category: 59 Robust Porter - 54 Entries

- Gold: Black Sand Porter, Kona Brewing Co., Kailua-Kona, HI
Silver: Porter, Snipes Mountain Microbrewery & Restaurant, Sunnyside, WA
Bronze: 3 Threads Porter, Far West Brewing Co., Redmond, WA

Category: 60 Brown Porter - 27 Entries

- Gold: Our Porter, Long Valley Pub & Brewery, Long Valley, NJ
Silver: Old Grind Porter, Etna Brewing Co., Etna, CA
Bronze: Prince William Porter, Moose's Tooth Brewing Co., Anchorage, AK



Category: 61 Classic Irish-Style Dry Stout - 15 Entries

- Gold: Dark Starr Stout, Starr Hill Brewing Co., Crozet, VA
Silver: Seaside Stout, Pizza Port Solana Beach, Solana Beach, CA
Bronze: Sacrificial Stout, Rochester Mills Beer Co., Rochester, MI

Category: 62 Foreign (Export)-Style Stout - 23 Entries

- Gold: Black Bear XX Stout, Alameda Brewhouse, Portland, OR
Silver: Organic Chocolate Stout, Bison Brewing Co., Berkeley, CA
Bronze: Black Hole XXX Stout, Chelsea Brewing Co., New York, NY

Category: 63 American-Style Stout - 17 Entries

- Gold: Shakespeare Stout, Rogue Ales, Newport, OR
Silver: Black Magic Stout, Ogg's Pizza & Brewing Co., San Clemente, CA
Bronze: Pipeline Stout, Moose's Tooth Brewing Co., Anchorage, AK

Category: 64 British Stout - 56 Entries

- Gold: Lasto's Oatmeal Stout, BJ's Restaurant & Brewery - Jantzen Beach, OR/Lloyd Center, OR/Clear Lake, TX
Silver: Oatmeal Stout, Gella's Diner & Liquid Bread Brewing Co., Hays, KS
Bronze: Black Pearl Stout, Main Street Brewery, Corona, CA

Category: 65 Imperial Stout - 42 Entries

- Gold: Siberian Night, Thirsty Dog Brewing Co., Independence, OH
Silver: Yeti Imperial Stout, Great Divide Brewing Co., Denver, CO
Bronze: Got Rocks Russian, Big Rock Chop House, Birmingham, MI

Category: 66 Strong Scotch Ale - 34 Entries

- Gold: High Road Scotch Ale, Walking Man Brewing, Stevenson, WA
Silver: Wee Heavy, AleSmith Brewing Co., San Diego, CA
Bronze: Caber Tossed Wee Heavy, Ogg's Pizza & Brewing Co., San Clemente, CA

Category: 67 Old Ale/Strong Ale - 30 Entries

- Gold: Nemesis, Big Time Brewing Co., Seattle, WA
Silver: Triple Exultation, Eel River Brewing Co., Fortuna, CA
Bronze: Shorty's Revenge, E.J. Phair Brewing Co., Concord, CA

Category: 68 Other Strong Ale or Lager - 24 Entries

- Gold: Wheat Wine, Smuttynose Brewing Co., Portsmouth, NH
Silver: Double Bastard Ale, Stone Brewing Co., San Marcos, CA
Bronze: El Robusto Porter, Papago Brewing Co., Scottsdale, AZ

Category: 69 Barley Wine-Style Ale - 47 Entries

- Gold: Sierra Nevada Bigfoot Barley-Wine Style Ale, Sierra Nevada Brewing Co., Chico, CA
Silver: Hot Pot, Glenwood Canyon Brewing Co., Glenwood Springs, CO
Bronze: Old Ruffian Barley Wine, Great Divide Brewing Co., Denver, CO



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Medieval Brewing (*continued from 27*)

mash. For me, it didn't really sink in what I've been experiencing the last few years since taking up all-grain brewing—that the look, texture and taste of the mash all come together to make that wonderful thing called "beer wort." As I watched Chitwood and Sampson examine the mash (all the while the temperature being off quite a bit), they focused in on these factors and it all started to come together.

For me, it didn't really sink in what I've been experiencing the last few years since taking up all-grain brewing—that the look, texture and taste of the mash all come together to make that wonderful thing called "beer wort."

Also, given this experience, if disaster should strike and for some reason a thermometer gets broken or a scale goes missing, it's nice to know that with a bit of thought it's possible to pull off a quality mash and brew session rather than throwing in the towel.

Will this end up being a world-class beer? Unlikely, but from tasting the wort sample it really should turn out a lot better than I originally expected given the crazy mashing schedule.

Future Experiment: Caveman Brewing?

All of this got us to thinking about our next fun experiment where we hope to do a brew session without propane, using either hot rocks (stein bier; see story on page 18) or an open fire pit to heat the kettle. I think a few homebrews are in order to help us figure out the logistics. Stay tuned!

Matt Jarvis is a BJCP certified judge and a member of the Cascade Brewers Society in Eugene, Ore. He is an active brewer who can't decide if his favorite style is Belgian wit or imperial IPA.

T'ej (*continued from 37*)

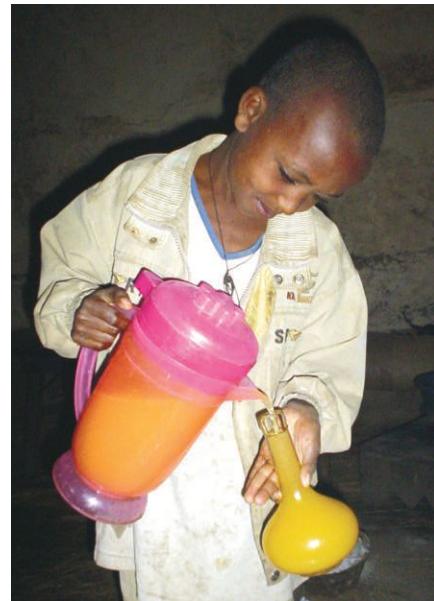
where the majority is still produced and consumed.

One way of making t'ej involves the addition of a controversial, locally grown plant called chat. Some people disdain it as a dangerous drug, but for others it is a way of life. It is a mild stimulant grown mainly in the eastern side of the country where it is popular among the dominant Muslim population. Groups of men spend afternoons chewing the supple stems and soft leaves of the chat plant, while drinking tea or seltzer water and engaging in deep discussion. The chat provides a serene but vibrant stimulation that can be narcotic when chewed for long periods of time, as is the custom among many truck drivers. In t'ej, it is used in the same way as gesho, and can be used in combination with it or on its own.

MY FAVORITE WAY TO DRINK T'EJ IS WHILE SITTING WITH A DEACON FROM A 900-YEAR-OLD ROCK- HEWN CHURCH IN LALIBELA, PUNGENT INCENSE FILLING THE AIR, AND A VIEW OF THE NORTHERN ETHIOPIAN HIGH- LANDS OUT THE FRONT DOOR.

My favorite way to drink t'ej is while sitting with a deacon from a 900-year-old rock-hewn church in Lalibela, pungent incense filling the air, and a view of the northern Ethiopian highlands out the front door. I have returned to Lalibela a number of times for exactly this experience.

As you can see, T'ej is not a style so much as a class of beverage that has many variations. A recent variation, which marks



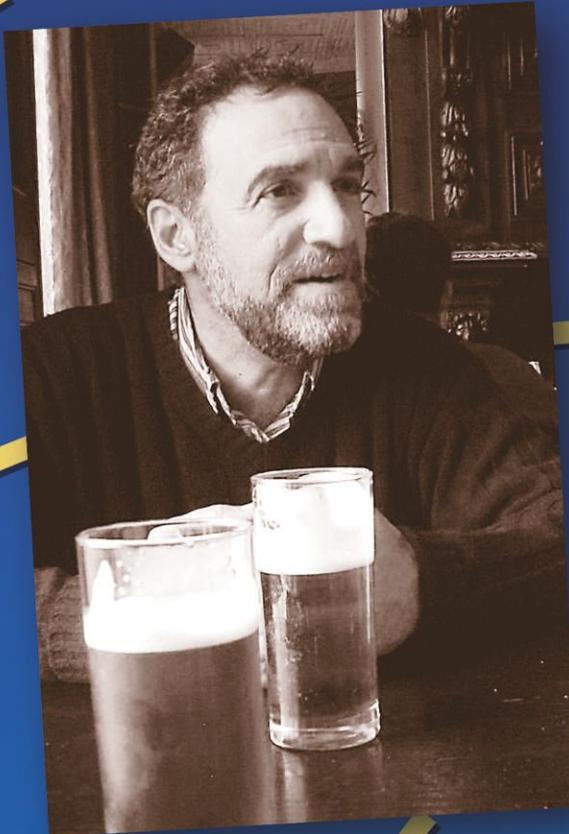
A boy serves t'ej in Lalibela, using the more traditional long-neck birille.

perhaps a new Americanization phase for t'ej, was brewed by Dogfish Head's pub brewer Mike Gerhart. Operating under the legal restrictions imposed on commercial brewers, Gerhart was required to use a minimum portion of 50 percent malted barley as a base for the brew. Yet even this is not entirely unusual, since barley does grow in Ethiopia and is sometimes used to make a type of braggot, though it is much more common as the main ingredient in tela, the generic term for homebrewed Ethiopian beer.

If there is such thing as a typical t'ej, it is probably more like the one made by homebrewer Joel Gallihue. Gallihue lives in the Washington D.C. area where there is a large population of Ethiopians, some who have been happy to help him with t'ej brewing tips. There are perhaps as many as 100 Ethiopian restaurants in Washington and many serve worthy versions of t'ej. Gallihue's recipe uses quantities and procedures convenient for homebrewers.

Chris O'Brien lives, brews and drinks homebrew in Addis Ababa, Ethiopia, from where he also publishes the online newsletter BeerActivist.com. He is part owner of Seven Bridges organic homebrew cooperative.

Travels with Charlie:



Microbrewed Adventures



By Lisa Morrison

Microbrewed Adventures: A Lupulin-Filled Journey to the Heart and Flavor of the World's Great Craft Beers is aptly named. Brewing guru Charlie Papazian departs from a common theme in his earlier books (*The Complete Joy of Home Brewing* and *The Home Brewer's Companion*, for example), boldly going where, in some instances, only he can go. And it's an enjoyable ride!

MICROBREWED Adventures



Papazian's previous writings have been recipe and how-to books first and foremost. And while his enthusiasm and effervescent personality always shine through (his plucky "Relax, Don't Worry, Have a Homebrew" has become a mantra for brewers of all levels), *Microbrewed Adventures* lets the real Papazian bubble up like a well-fermented ale.

Don't despair. There are plenty of new recipes to be tried and tested—more than 50 in all. But in addition to recipes, *Microbrewed Adventures* takes readers through a distillation of the history of the modern homebrew and craft beer movement in America and beyond, meeting magical master brewers, meticulous mead-makers, historic figures in the development of amateur and professional craft brewing and a host of other charismatic characters along the way.

Readers get to ride shotgun as Papazian travels the world in search of the tastiest, most flavorful beers—a quest even the author admits is impossible. “The ultimate beer? As always, there is never one ultimate beer,” Papazian writes. “Just when you believe you have experienced the beer you want to be engaged to the rest of your life, along comes another quintessential brew. And so it goes.”

Microbrewed Adventures does prove that the journey is the prize. And as we follow Papazian, we, too, find ourselves on a

journey through time and space—and many quintessential brews.

At one point, he’s “on tour” across a stretch of the United States with his wife, Sandra, meeting enthusiastic amateur and professional craft brewers on a schedule that would exhaust the heartiest of rock stars (and they don’t have to taste 400 beers in a day). Before that, it was a trip to New Zealand (many years earlier), where he stumbles on a bottle of mead that prompts him to ditch his down-under vacation plans and head to



Tapping into a keg of real ale at Boscos



Established in 1534, the brewroom at the San Francisco Monastery, Quito, Ecuador

a Scottish castle in an effort to unravel the mysteries of mead.

You’re right at his elbow when Papazian bemoans the current laissez-faire attitude of many London pubs that he believes are doing the real beer movement there an injustice by not serving fresh beer through clean lines—something that was unheard of a few decades ago when he first fell in love with British ales.

He takes a whimsical turn and ventures to a further-away Fijian island than he had planned, stumbling upon a homebrewer who insists Papazian drink his homebrew with him “tomorrow.” After Papazian wonders why he couldn’t just have a sip today, the Fijian host tells him, “This afternoon, I will make it, and tomorrow it will be ready, and we will drink to bloody hell.” Papazian really doesn’t explain what bloody hell is like, but he does explain the Fijian’s insistence on drinking “cowboy style.” You’ll have to read the book for that one.

As we’re crisscrossing the globe with Papazian, we’re also getting a history lesson. He introduces us to David and Louise Bruce, a couple who opened several Firkin on-premises pubs in England, unwittingly opening the door for the microbrew move-

Photos courtesy of Charlie Papazian

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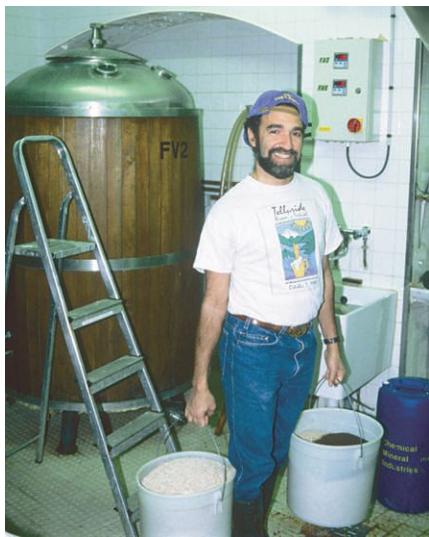
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Brewing in Paris

ment throughout the world. We meet a 95-year-old monk who, during his religious work, also develops a strain of disease-resistant honeybees. Brother Adam, who arrived at the monastery when he was 12, found that making mead was an enjoyable and challenging side interest to his bee-breeding business.

Papazian also recalls a visit with Judy Ashworth, whose Lyons Brewery Depot was an original spot on the good beer map. Ashworth was busy creating beer cocktails at the time (something that seems to be making a comeback lately), blending two or more microbrews into stellar concoctions with intriguing names like "Foggy Night in the Sierras" (Anchor Old Foghorn barley-wine with Sierra Nevada Pale Ale) and Stanley Steamer (St. Stan's Dark Alt and Anchor Steam). But she was also one of the first female supporters of the craft beer movement, making her name known in a small town in northern California. Today, Ashworth is still regarded as one of the first ladies of real beer. We also meet some of the people who are carrying the torch today, such as Sam Calagione of Dogfish Head, John Maier of Rogue Ales, Greg Koch of Stone Brewing, Alan Newman of Magic Hat, Dan Carey of New Glarus, Tom Nickel of Oggis and Peter Bouckaert of New Belgium Brewing, to name just a few.

All along the way, Papazian shares recipes that either are clones or in some cases originals; recipes that have been shared with him or that he has created after being

inspired by someone or something else. Less experienced homebrewers will appreciate that each recipe features an all-grain and an extract version, keeping the love of brewing accessible for every level of brewer. A few recipes of note include the 1982 Original Sierra Nevada Pale Ale, John 1981 (a homebrew version of Charlie 1981 made by John Maier for the 2001 Craft Brewers Conference in Portland), Stone 03.03.03 Vertical Epic Ale, a fruit beer similar to those from New Glarus, and Brooklyn Brewing's Original Chocolate Stout. And one that is sure to entice you to break out the brew kettle is an American homebrew version of the Fijian's "bloody hell" beer.

Microbrewed Adventures is incredibly entertaining, informative, emotionally charged and downright fun—a lot like the good beer movement itself. It's an armchair traveler's "autobiographical biography" on the history makers (from the past and present) who are shaping the good-beer lifestyle, with recipes to boot.

It must've been an adventure to write. It sure is one to read.

Lisa Morrison reads about beer, writes about beer and drinks a beer or two at her home in Portland, Ore.



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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.



Wintertime often brings out the creative side of brewers. Cooler temperatures call for bigger, more bracing brews, and brewers from coast to coast oblige with some of the heartiest beers of the year.

Some brewers opt for extra hops, some for extra malt—some for both. Some brewers change their winter beer from year to year, making each a unique expression of the brewer's art. Others stick to the same tried and true recipe.

For this issue's Commercial Calibration, we had our judging panel taste two very different takes on winter beer with two of the longest running in the United States.

Seattle's Redhook Brewery has brewed Winterhook for 20 years. Despite its longevity, it is hard to squeeze Winterhook into a specific Beer Judge Certification Program category—a fact not lost on our judging panel. Winterhook created a bit of a debate. Is it an old ale, or an American brown ale?

If you go strictly by numbers, at 1.053 original gravity, 27 International Bitterness Units and a color of 22 SRM (Standard Reference Method), it falls toward the low end of the old ale category. But its use of American hop varieties seems more in tune with the American brown ale category—yet the malt complexity and pronounced esters are out of step with that style.

After a bit of e-mail discussion, the judges agreed to evaluate Winterhook as a Winter Warmer variant of the Old Ale style. And their conclusions led to the widest range of scores since we have been doing these evaluations.

Beth Zangari found Winterhook to be a bit light for her tastes in Winter Warmers, scoring the beer a moderate 29 out of 50. Gordon Strong found the complexity and surprisingly full-bodied flavor much to his liking, giving the beer 40 out of 50. Scott Bickham and David Houseman were in the middle, with scores of 38 and 36, respectively.

There was no such debate over Sierra Nevada Celebration Ale. This wonderfully hoppy beer set the bar for American India pale ales when it burst on the scene in the late 1980s. The judges universally praised its wonderful hop aroma, bitterness and hop flavor, balanced by a firm malt backbone. This shows why beer lovers greatly anticipate the arrival of each year's batch of Celebration Ale.

But don't take the judges' word for it. Get yourself some bottles of Celebration and Winterhook, download a scoresheet from www.bjcp.org and judge them for yourself. See how your perceptions compare.

Our expert panel includes Houseman, a Grand Master II judge and competition director for the BJCP from Chester Springs, Pa.; Zangari, a Master level judge from Placerville, Calif. and founding member of Hangtown Association of Zymurgy Enthusiasts (H.A.Z.E.); Bickham, a Grand Master II judge from Corning, N.Y., who has been exam director or associate exam director for the BJCP since 1965; and Strong, a Grand Master II judge and principal author of the new BJCP Style Guidelines who lives in Beavercreek, Ohio.



ON THE WEB

Redhook Brewery
www.redhook.com

Sierra Nevada Brewing Co.
www.sierranevada.com

Beer Judge Certification Program
www.bjcp.org





THE JUDGES' SCORES FOR WINTERHOOK



Aroma: Malty with nutty, toasted notes and high woody, grassy and citrus hop aroma. Fruity esters reminiscent of currants. Alcohol not really noticeable. No diacetyl or DMS. No aging or oxidation evident. (9/12)

Appearance: Amber with slight brown hue. Filtered clarity—bright to brilliant. Thin brown/tan head dissipated rapidly. (2/3)

Flavor: Malty sweetness with chocolate and roast malt character that's drying in the finish. Fairly assertive hop bitterness. Medium hop flavor contributes to a peppery spiciness with grassy notes. Dry, bitter, roasted aftertaste. Balance toward bitterness, similar in profile to altbier. Hint of diacetyl as the beer warms. No DMS. Very low ester profile. (14/20)

Mouthfeel: Medium bodied to slightly full. Bitterness leaves some astringent mouthfeel. Not particularly warming with alcohol. Somewhat rough. (4/5)

Overall Impression: More aggressively bitter than other Winter Warmers. More American than English. I have the sense that this beer would better suit the American Brown Ale style, perhaps even Northern German Alt. At 6-percent alcohol by volume the alcohol does sneak up on you so this would warm on a cold winter eve but it doesn't seem to have the complexity expected of the style. It does fit at the lower end of the style range as a Winter Warmer and improves as it warms. It is very drinkable but I would like this beer to be maltier with lower IBUs. It went very well with some Emmentaler Swiss cheese; the flavors married very well. (7/10)

Total Score: (36/50)



Aroma: Some caramel maltiness becomes more pronounced as the beer warms; very light notes of blackstrap molasses and prune at very low levels. Hop aroma is of evergreen, white fir and Ponderosa pine. Hints of candy sweetness. An earthy yeastiness develops as the beer warms. (6/12)

Appearance: Amber with golden highlights. Brilliant clarity. Fine tan head stays as thin layer of foam to end, leaves delicate lace. (3/3)

Flavor: Toasty malt character with piney hop flavor follows aroma and lingers into the finish. Has an almost soapy flavor with a definite light acidity from yeast and darker grains rather than the lactic character of some classic U.K. examples of this style. Papery notes mid-palate disappear quickly. Finishes very clean with just enough hop bitterness. (11/20)

Mouthfeel: Medium light body, with soft carbonation. Not gassy. Warmth in the finish is more indicative of alcoholic strength than anything in the flavor. On the light end of the style. (3/5)

Overall Impression: This is definitely an American spin on a traditional U.K. style. This beer strikes me as one formulated for the adventurous drinker more accustomed to lighter beers. Has some of the characteristics of a Samuel Smith's Winter Welcome: lighter body, color and softer carbonation level. Seems less alcoholic, less warming and less creamy than others like Fuller's variations. Those accustomed to the U.K. or bigger U.S. Winter Warmers would find this flavorful beverage on the decidedly lighter side. (6/10)

Total Score: (29/50)



Aroma: Fresh, resiney hop character with ruby red grapefruit and pine needle fragrances. Almost perfumey due to combination of esters, ethanol and higher alcohols. I pick up some caramel malt in the background, but hops and fermentation character dominate the aroma. A little more malt complexity would be nice. (7/12)

Appearance: Deep copper color—surprisingly dark for such a subtle malt aroma. Ruby highlights from crystal malt. Excellent clarity. Head is a little coarse but has good retention. (3/3)

Flavor: Starts with a decent malt backbone then evolves to spruce-like, resiney hop notes and pineapple esters before finishing with a moderate hop bitterness. There's also a touch of roast in the finish. Alcohols are evident as both flavor and warmth, but are held in check by the malt. Lots of complexity, and the flavors are in balance, but a little lower level of higher alcohols would be an improvement. (15/20)

Mouthfeel: Some alcoholic warmth, as noted above, and a good creaminess from both malt and carbonation. The pleasant mouthfeel boosts the overall character significantly. (5/5)

Overall Impression: A very good beer with an intriguing combination of hops fermentation character and malt. I actually opened a second bottle to help me refine my perceptions. Alcohol content is not huge, but the esters and other yeast components personify the Winter Warmer style, but with an American hop character that is missing in the British versions. (8/10)

Total Score: (38/50)



Aroma: Fresh piney, earthy hop aroma; complex and "forest-like." Moderately malty with a deep, rich complexity. Moderate esters (reminiscent of oranges and papaya). Distinctive spicy note. Light alcohol. Inviting. (10/12)

Appearance: Deep burnished copper color, almost brown, with a distinctively reddish hue. Very pretty color, like a bockbier. Brilliant clarity. Moderate sized, light tan head with average retention. (3/3)

Flavor: Rich malt palate, with a depth suggestive of Munich malt. Moderately high bitterness. Moderate hop flavor (earthy, spicy) with orange and citrus esters. Fairly dry finish with lingering rich malt and citrusy hop flavor. Quite clean. Malt and hop flavors balance and intermingle throughout the entire palate experience. Malty but not sweet. (15/20)

Mouthfeel: Full body (interesting, given the attenuation), moderately high carbonation. Lightly warming, but not a huge beer. (4/5)

Overall Impression: Fairly hoppy for a Winter Warmer; certainly a U.S. variant of the typically U.K. style. Rich malt, big body and light warmth are very common for English beers. The hop bitterness, flavors and varieties are distinctively American. Interesting flavor complexity. Quite enjoyable by itself, but might be a good accompaniment for spiced cookies/cakes or other holiday desserts. Very drinkable. (8/10)

Total Score: (40/50)

THE SCORES



Sierra Nevada Celebration Ale, Sierra Nevada Brewing Co., Chico, Calif.
BJCP Category: 14B American India Pale Ale

THE JUDGES' SCORES FOR CELEBRATION ALE



DAVE HOUSEMAN



BETH ZANGARI



SCOTT BICKHAM



GORDON STRONG

Aroma: Caramel malt with balancing citrus hop aroma. Some alcohol evident. Low but noticeable esters. No diacetyl or DMS. I would like to have more hop aroma but still well balanced. (10/12)

Appearance: Bright, not brilliant, clarity with hints of haze. Dense, long-lasting head. Well carbonated. Light amber color. Beautiful beer. (3/3)

Flavor: Malt sweetness, exhibited by caramel and hints of roasted malt, and hop bitterness initially balanced but the bitterness lingers in the finish while the malt dries out a bit earlier. Citrus, grapefruit hop flavor is high and inviting. Hint of diacetyl—OK. Low fruitiness—OK. Balanced toward hops as appropriate to style. (18/20)

Mouthfeel: Medium body with a lighter mouthfeel due to carbonation. Dry finish contributed by hops and carbonation. Noticeable alcohol warming. (5/5)

Overall Impression: Excellent example of the American IPA style. Very drinkable. Classic. I'd only want additional hop aroma. This sample was fresh without signs of oxidation or aging often found in West Coast beers bought on the East Coast. This beer went very well with an Extra Sharp Cheddar—the bitterness and sharpness from the cheese were complementary. (9/10)

Total Score: (45/50)

Aroma: Pink grapefruit juice hop aroma and Carnation malted milk, with a hint of vanilla. Clean fermentation. A lemony rose quality emerges as the beer warms. (9/12)

Appearance: Copper red, with good clarity, not brilliant. At first off-white, tightly formed, biscuity head slowly dissipates to a persistent layer of foam that leaves lace on glass to the end. (3/3)

Flavor: Rich caramel toasted malt with a hint of sweetness is the backbone to a pink grapefruit citrus hop flavor and lingering assertive hop bitterness. Has a note of coffee. Balance leans toward the hop. Slight mineral quality mid-palate with some vanilla. Alcohol becomes more evident as the beer warms. (14/20)

Mouthfeel: Medium full body is a little bigger than most examples of style. Somewhat high carbonations. Lingering hop bitterness coupled with alcoholic warmth create a tingling sensation on the lips. (4/5)

Overall Impression: Rich and complex, on the big side for style. The malt character is rich enough to support the big citrus Cascade hop character signature to Sierra Nevada. The hops themselves are citrus; the malt sweetness makes the difference between yellow and pink grapefruit. Has some of the same characteristics of Imperial IPAs but is more drinkable in quantities greater than a half-pint. The sample evaluated here was bottled. (I feel very lucky to be able to readily get this one on draft, which is even more rounded and rich. I'd score the draft product differently!) (8/10)

Total Score: (38/50)

Aroma: Firm crystal malt background with layers of citrus character from American hops. Alcohol and esters are also present, but in balance, and there is an interesting smokiness in the background. Pleasant aroma, but hop character could be a little fresher. (9/12)

Appearance: Amber color with ruby highlights and pristine clarity. Head has uniform beading and lasts well. (3/3)

Flavor: Sufficient malt to balance the other flavor components, toasted and caramel malts are evident and provide a canvas for the hops. Cascade hops are present, as expected, but there are spruce notes that may come from Centennial or a related high alpha variety. Hop bitterness is high—solidly in the IPA range, with an appreciable amount of alcohol in the finish. Fermentation character is clean—light esters, but focus is on the malt and hops. (18/20)

Mouthfeel: Some astringency and soapiness from the high hop rate, but not objectionable. Alcoholic warmth is appropriate, and conditioning gives a pleasantly creamy mouthfeel. (5/5)

Overall Impression: Excellent example of the American IPA style. All of the key flavor components are present and balanced: malt, hop flavor and aroma, bitterness and alcohol. A little fresher hop aroma would improve the profile, but it is close to perfection. (9/10)

Total Score: (44/50)

Aroma: Strong but not overpowering hop aroma: piney, citrusy, fresh, slightly grassy (as in dry hops). Clean malt; slightly grainy, very lightly sweet, with a touch of caramel but rather low. Clean. Light alcohol and very low esters. Malt develops over time, but hops are most prominent and lingering. (9/12)

Appearance: Huge off-white head, moussey and long lasting. Crystal clear. Deep amber color with just a hint of red. Very attractive. (3/3)

Flavor: High bitterness but not harsh. Substantial malt in support but balance is totally toward hops. High hop flavor (citrusy, piney, earthy) lingering through the long finish. Noticeable alcohol and low esters. Malt palate is firm and slightly grainy with low caramel flavor, leading into a dry, well-attenuated finish. Clean fermentation character. (18/20)

Mouthfeel: Medium to medium-full body (a bit high) with moderate carbonation. Some hop-derived astringency. Moderate warmth indicating strength, but not hot. (4/5)

Overall Impression: Big hop character is well done, but would like to see more of an intense fresh hop aroma. The bitterness is high but clean and without harshness; well done! The malt is in support as it should be, but the body is rather high. Since this is a winter seasonal IPA, the added body is not out of character and encourages sipping. Aggressive but not over the top. Some years need aging to enjoy, but this is ready to drink now. A good nightcap. (8/10)

Total Score: (42/50)

by Charlie Papazian



Letting the Genie Out of the Bottle

1944—this was the year it had been bottled! On the table before us stood a dark green bottle, corked and sealed with a blue-green wax. Inside, a 61-year-old Sack Metheglin beckoned, enticed and eventually overcame us. Several years ago on a visit to Lt. Col. Robert Gayre's castle in Argyll I was gifted an extraordinary rare bottle of Gayre's early experimentations with mead. In 1948 he established his short-lived meadery in Cornwall. All that remained of the meadery's stash were a few bottles and some of the early experiments. I brought one of those experiments back to Colorado to await the appropriate opportunity to share with those who appreciate mead in its sincerest form.

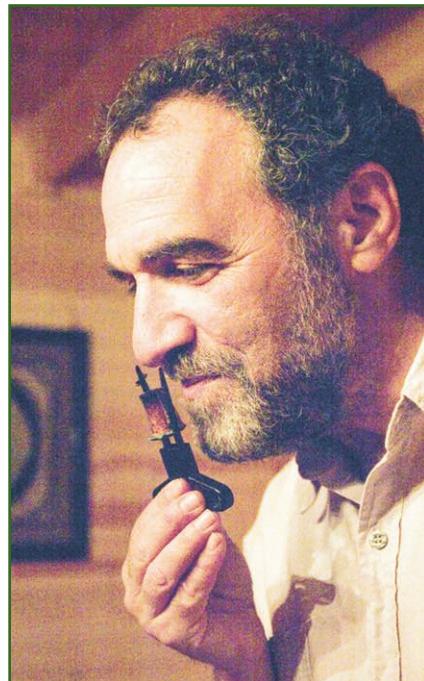
My wife Sandra, John and Caroline Carlson, Ray Daniels and Linda Starck happened to be on hand as we finished a fiery feast of chili and beer. At the end we were discussing the appropriateness of finishing our experience with mead. As I rummaged through my mead stash, I noticed the bottle lying on its side, carefully wrapped in a towel. There was a moment's hesitation that dissolved quickly as I realized now was the moment to release the genie from this magical elixir.

Years earlier I had researched most of Gayre's remaining notes and correspondence on the subject of mead. I knew of the herbs and spices with which he experimented. Now we were going to discover what time had wrought on such a labor of love and honey.

Having been set on its side for a number of Colorado years, sediment of tannin had adhered on the downside of the bottle. Now with it upright, we were delighted and excited to note on the surface of the bottle a raised relief of the words "Sack Metheglin 1944" in the font of the time. Also a simple typed paper label survived to tell,



Sixty-one years later, the Sack Metheglin mead is ready to be shared by friends.



Uncorking the bottle released notes of lavender and honey.

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1944 Sack Metheglin

Ingredients taken from Lt. Col. Robert Gayre's handwritten 1944 notes, perhaps revealing insight into the mead we released from captivity in 2005.

Ingredients

for 5 U.S. gallons (19 liters)

12.0 lb	(5.5 kg) honey
2.0 oz	Fresh fennel
2.0 oz	Lemon balm, thyme and sage in flower
2.0 oz	Elder flowers, fresh
1.0 oz	Bay leaf, tansy (fresh), parsley (fresh) and mint
0.5 oz	clove, cinnamon and nutmeg
	Mead, wine or champagne yeast
0.25 tsp	yeast extract or other yeast nutrient

Directions

Dissolve honey in enough water to make 5 gallons. Add hydrated yeast and ferment at about 70° F (21° C). Rack into a secondary when majority of fermentation has been completed and mead shows signs of clearing. Add herbs and spices to secondary. Age for three to six months. Bottle when fermentation has completely finished. Enjoy 61 years later.

Sack Metheglin
Battle, Sussex
1944

A two-pronged cork puller was gently inserted down the side of the cork. Surprisingly short, the cork came out with ease as we noted that there had been no seepage. This mead was a survivor to say the least. Six glasses were carefully poured, my hands slightly trembling with excitement and anticipation.

Noting lavender, floral-blossom character, with little honey aroma, we swirled and viewed the mead for what seemed like ages. I thought to myself that no one really wanted to taste the mead, for fear that then it would be gone. Ahhh. But we all knew better. Mead is not forever—it is enjoyed and lives on for eternity in the minds of those who revere its magic.

Unlike a 1949 Sack Metheglin I had sampled on a visit to the castle, this 1944 experimental mead was not sweet, but rather medium to dry in body and character. The flavor of herbs was delicate and distant.

All of our palates were enlivened and sensitive after our fiery chili feast an hour earlier. Now we were discussing the tastes of herbs that were hand grown and carefully infused into the mead before us 61 years ago! Sage? Bay leaf, lemon balm? Yes, the bay leaf emerged for all of us. Some of us noted a lavender-like softness.

From my prior research I suppose there were no fewer than a dozen herbs that had been infused, yet only a few emerged to express themselves singularly, while the others devoted themselves to the mysterious and subtle complexity we were all enjoying without definition.

An astringent mouthfeel was noted as it disappeared to a clean aftertaste. The contents of the bottle of Sack Metheglin also disappeared, but the memory will live on forever.

There is no shuck and jive here, but nevertheless let's get on with a recipe.

Charlie Papazian is president of the Brewers Association.



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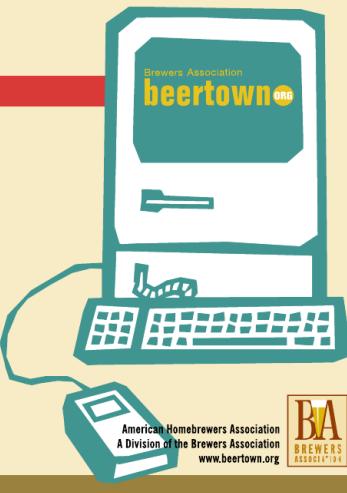
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A Division of the Brewers Association
www.beertown.org

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by Zymurgy Staff

California State Fair

Mike Riddle of Napa, Calif. started brewing 12 years ago, dabbling in the styles that he most likes to drink.

"I like to call them the 'bitter-sweet' styles—beers that have a high residual sugar, balanced by plenty of hops," he says.

Among those beers is American Brown Ale, a style conceived by homebrewers that has made the jump into the commercial craft beer arena. Riddle has been working on his American Brown Ale recipe for 10 years, "trying to get it just right."

It looks like the hard work has paid off as Riddle's Retro Brown claimed the best of show award in the 2005 California State Fair Competition, which helped propel him to the 2005 Sierra Nevada California Homebrewer of the Year Award. The award goes to the brewer who accumulates the most points in three California homebrew competitions often referred to as the "Triple Crown": The Maltose Falcons' Mayfaire, the California State Fair and the California State Homebrew Competition. This is the fourth time Riddle has won the prestigious award.

"You really have to brew a lot for the award," he says. "Realistically, you have to brew 50 different styles in a year."

He showcased that versatility in the Mayfaire, where he won 22 medals in 20 out of 27 categories, topped by second runner-up for best of show. He followed that with 18 medals at the state fair and capped it with a strong showing at the California State Homebrew Competition.

This was also a good year for Riddle at the American Homebrewers Association's National Homebrew Competition as he won a pair of bronze medals—one in light

lagers and one in India pale ales.

Riddle was one of the founding members of MASH (the Marin Society of Homebrewers), which merged last year with the Marin Mountain Hoppers to form HOME (Homebrewers of Marin and Elsewhere). 

**"I LIKE TO CALL THEM
THE 'BITTER-SWEET'
STYLES—BEERS THAT
HAVE A HIGH RESIDUAL
SUGAR, BALANCED BY
PLENTY OF HOPS."**



Retro Brown

Ingredients for 10 U.S. gallons (38 liters)

16.0 lb	(7.25 kg) British two-row
1.0 lb	(0.45 kg) white wheat
3.0 lb	(1.36 kg) crystal 40 malt
1.0 lb	(0.45 kg) Cara-pils
0.75 lb	(0.34 kg) chocolate malt
2.0 oz	(56 g) Northern Brewer for 60 minutes
2.0 oz	(56 g) Northern Brewer for 30 minutes
2.5 oz	(70 g) Cascade for 15 minutes
2.5 oz	(70 g) Cascade for 3 minutes
3.0 oz	(84 g) Cascade dry in secondary
	Wyeast 1056 yeast

Directions

Mash grains for 90 minutes at 153° F (67° C) at 1.25 quarts/pound. Mash off at 165° F (74° C). Sparge 45 minutes. Boil for 90 minutes. Ferment with Wyeast 1056 nine days in primary, 11 days in secondary. Prime with 8.4 oz (238 g) corn sugar and bottle.

Target Original Gravity: 1.062

Final Original Gravity: 1.022

IBUs: 60

Color (SRM): 20



CALENDAR

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

January 6

Big Beers, Belgians & Barleywines Homebrew Competition

Vail, CO. Sanctioned by: **AHA/BJCP**. Fee: \$5. Entry Deadline: 12/31. Award Ceremony: 1/7. Contact: Laura Lodge, Phone: 970-524-1092, Fax: 970-524-1093, E-mail: BigBeersFestival@hotmail.com Web: www.BigBeersFestival.com

January 19–21

Upper Mississippi Mash-Out Minneapolis/St. Paul, MN. Sanctioned by: **AHA/BJCP**. Fee: \$7. Entry Deadline: 1/6. Award Ceremony: 1/21. Contact: Steve Fletty, Phone: 612-625-1048, E-mail: fletty@umn.edu Web: www.mnbrewers.com/mashout

January 20

Peterson Brew Fest Peterson AFB, CO. Sanctioned by: **AHA/BJCP**. Fee: None. Entry Deadline: 1/11–13. Award Ceremony: 1/20. Contact: Curtis Clayton, Phone: 719-574-4100, Fax: 719-554-7449, E-mail: Curtis.Clayton@peterson.af.mil

January 21

2nd Annual Homebrew Invitational Berkeley, CA. Fee: None. Entry Deadline: 1/2–15. Award Ceremony: 1/26. Contact: Mark Cabrera, Phone: 415-716-9540, E-mail: mark@nectarales.com Web: www.firestonebeer.com

January 21

Doug King Memorial Lager & Specialty

Woodland Hills, CA. Sanctioned by: **BJCP**. Contact: Drew Beechum, Phone: 818-884-8586, E-mail: president@maltosefalcons.com Web: www.maltosefalcons.com/comps/2006DKM

January 27–28

Meadlilibrium 2006 Winter Springs, FL

Sanctioned by: **AHA/BJCP**. Fee: \$6. Entry Deadline: 1/20–21. Award Ceremony: 2/5. Contact: Ron Bach, Phone: 407-696-2738, E-mail: bachian@juno.com

February 6–18

12th Annual Boston Homebrew Competition

Boston, MA. Sanctioned by: **AHA/BJCP**. Fee: \$6. Entry Deadline: 1/20–2/3. Award Ceremony: 2/18. Contact: Alastair Hewitt, Phone: 617-475 1612, E-mail: bhc@wort.org Web: www.bhc.wort.org

February 11–18

Best Florida Beer Homebrew Competition

Tampa, FL. Fee: \$6. Entry Deadline: 1/22–2/6. Contact: Dave Morgan/K.Koenig, Phone: 727-734-6968, E-mail: dgm@spriemail.com Web: www.dunedinbrewersguild.com

February 11

Big Beautiful Belgians AHA Club-Only

Brier, WA. Sanctioned by: **AHA/BJCP**. Fee: \$5. Entry Deadline: 1/23–2/4. Award Ceremony: 2/11. Contact: Lori Brown, Phone: 425-771-7602, E-mail: loribrown@worldnet.att.net Web: www.beertown.org/homebrewing/club.html

February 17

America's Finest City Homebrew

Competition San Diego, CA. Sanctioned by: **BJCP**. Contact: Chad Stevens, Phone: 619-656-6887, E-mail: zuvaruvi@cox.net

February 17–18

Kansas City Biermeisters 23rd Annual Competition

Kansas City, MO. Sanctioned by: **AHA/BJCP**. Fee: \$6. Entry Deadline: 1/15–2/4. Award Ceremony: 2/18. Contact: Rob Beck, Phone: 816-453-2987, E-mail: 3rbecks@sbcglobal.net Web: www.kcbiermeisters.org

February 18

War of the Worts XI Collegeville, PA. Sanctioned by: **AHA/BJCP**. Fee: \$6 first entry, \$5/subsequent entries. Entry Deadline: 1/18–2/11. Award Ceremony: 2/18. Contact: Vince Galet, Phone: 215-855-0100, E-mail: vince.galet@merck.com Web: www.keystonehops.org

February 19

Transatlantic Showdown 2006 Norfolk, VA.

Sanctioned by: **AHA/BJCP**. Fee: \$6. Entry Deadline: 1/30–2/11. Award Ceremony: 2/19. Contact: Tom Byrnes, Phone: 1-888-459-2739, E-mail: president@hrbts.org Web: www.hrbts.org/showdown2006.htm

February 24–25

BABBLE Brew-Off 2006 Lincolnshire, IL.

Sanctioned by: **AHA/BJCP**. Fee: \$7 first entry, \$5 additional. Entry Deadline: 2/1–18. Award Ceremony: 2/25. Contact: Dan Morey, Phone: 847-837-1069, E-mail: val.dan.morey@juno.com Web: www.babblehomebrewers.com

March 4–18

2006 Bluebonnet Brewoff Irving, TX.

Sanctioned by: **AHA/BJCP**. Fee: \$7. Entry Deadline: 2/13–24. Award Ceremony: 3/18. Contact: Dennis Evans, Phone: 817-832-8916, E-mail: clearforkbrewing@mesh.net Web: www.bluebonnetbrewoff.com

March 4

Reggae and Dredhop Homebrew

Competition Denver, CO. Sanctioned by: **AHA/BJCP**. Fee: \$6. Entry Deadline: 2/13–3/4. Award Ceremony: 3/4. Contact: Bob Kauffman, Phone: 303-913-5722, E-mail: dredhop@hopbarley.org Web: www.hopbarley.org

March 11

AHA Membership Rally, Deschutes Brewery

Bend, OR. Contact: Kathryn Porter, Phone: 303-447-0816 x 123, E-mail: kathryn@brewersassociation.org Web: www.beertown.org

March 11

Drunk Monk Challenge Aurora, IL. Sanctioned by: **AHA/BJCP**. Fee: \$5 online, \$7 paper, \$3 MOM. Entry Deadline: 2/25–3/4. Contact: Don Alton, Phone: 630-858-1385, E-mail: donlyn55@aol.com Web: www.knaves.org/dmc

March 11

11th Annual Kona Brewers Festival

Homebrew Competition Kailua-Kona, Hawaii. Sanctioned by: **AHA/BJCP**. Fee: \$5. Contact: Rocket Rod Romanak, Phone: 808-325-7449, E-mail: rod@rocketsuds.com Web: www.geocities.com/konabrewfest

March 17–24

March Mashness St. Cloud, MN. Sanctioned by: **AHA/BJCP**. Fee: \$6. Entry Deadline: 3/1–15. Award Ceremony: 3/25. Contact: Bruce LeBlanc, Phone: 320-251-0229, E-mail: brewski@astound.net Web: www.cloudytownbrewers.org/competition/

April 21–30

AHA National Homebrew Competition 11

Regional Judging Sites, U.S. and Canada. Sanctioned by: **AHA/BJCP**. Fee: \$8. Entry Deadline: 4/3–14. Award Ceremony: 6/24. Contact: Gary Glass, Phone: 303-447-0816 x 121, Fax: 303-447-2825, E-mail: gary@brewersassociation.org Web: www.beertown.org/events/nhc/index.html



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September 2005

Western Washington Fair, 46 entries—*Roger Bauer of Tukwila, WA*. Tulare County Fair Homebrew Contest, 49 entries—*Robert Morris, Mickey Goularte and Phil Routon of Visalia, CA*. Schooner Homebrewing Championship, 165 entries—*Michael Chaltry of Milwaukee, WI*. Mid South Fair, 221 entries—*John Tipton of Madison, AL*.

October 2005

Southeast Alaska Autumn Pour, 51 entries—*Dena Sessler of Eagle River, AK*. Schleswig Wine & Beer Contest, 60 entries—*Martin Appelt of Sioux City, IA*.

Reader Advisory: Warning!

These pages are rated XG (eXtra Geeky) by the Bureau of Magazine Muckymucks. Items in this section may contain raw data, graphic functions, full statistics and undiluted biochemistry. Keep away from poets, squeamish novices and others who may find the joyously technical nature of this prose to be mindbendingly conceptual or socially offensive. Also, because of the complex nature of brewing science, there is no guarantee that you will live longer, brew better or win any awards in the next homebrew competition based upon the conclusions presented here.

Dry Hopping with T-90 Pellets

By Hugh Burns

If you have been brewing beer for any length of time, you're probably dry hopping some of your beer or at least thinking about it. Dry hops add distinct hop aroma and flavor to fermented beer not attainable by late kettle hopping of wort. Dry hopping is a cold-side process, and how far you want to go with it is something to explore.

For the purpose of this discussion, "dry hops" refers to hops added to fermented beer (90 percent or more attenuated). The technique of adding hops to fermented beer in the conditioning tank or serving cask is not a new idea, but it's certainly a good one. This article will look at the use of T-90 hop pellets to impart dry hop flavor and aroma to finished beer. These pellets (type 90) got their name in Germany because hop processors got 90 kilograms of pellets from 100 kilograms of whole hops. Today, hop processors get 95 to 97 kilograms for every 100 kilograms of whole hops—but the name stuck.

To summarize a number of brewing texts: evaluate your hops, but don't go overboard. Unless you're buying enough hops to affect the market, leave the lab evaluation to the pros. Get a reputable supplier to get good hops from the growers, and process them well. Get to know the supplier and ask a lot of questions. Friends don't let friends buy junk.

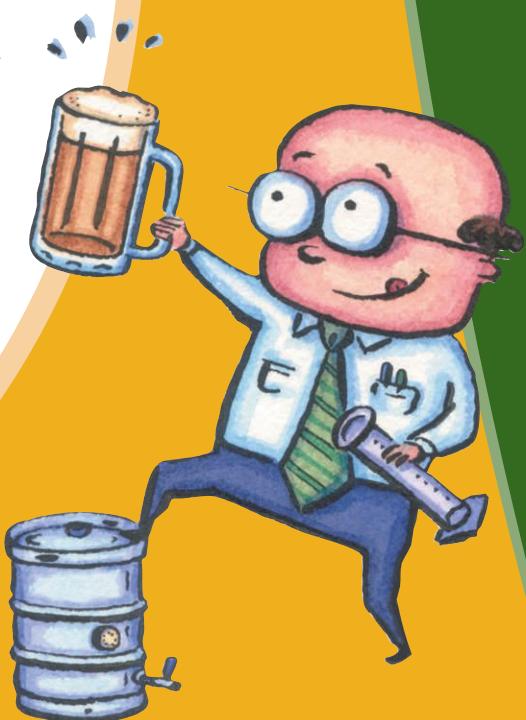
For the purpose of evaluating a particular lot of hop pellets for use as a dry hop, take a few pellets in the palm of your hand and crush a couple pellets with the fingers of your other hand. What you smell is pretty

much what you get. It's not very technical, but it's the best way to get an idea of the aroma and flavor the hop will contribute to the beer. There isn't a reliable way to correlate the commonly measured quantitative parameters of a particular lot of hop pellets with its efficacy as a dry hop addition. The late Bert Grant said it well: "There are still hop flavor effects in the beer which we can taste but not measure, and it is this non-bitter constituent of beer flavor that often sells the product and sets it aside from, and above, all other beverages."¹

Ralph Olson at Hopunion said, "It's very touchy-feely—you need to look at what you have and decide how you want to use it."

It's subjective—make a qualitative analysis based on your nose, eyes and fingers. If you like what you have, think seriously about using it.

The literature recommends that one use "the absolute freshest hops available" when dry hopping.² Hops are harvested only once a year, so if you're using hops from the most recent harvest, that's as fresh as they get. But with hops, just like with beer, there's a lot more to freshness than the "born-on" date. How the hops are dried, processed, packaged and stored have more effect on their freshness than just the length of time that elapsed since they were picked. Hops, like beer, stale rapidly when exposed to heat, air, light and, in the case of hops, moisture. Hop processors work very hard to ensure that what shows up at your dock hasn't been exposed to any of that.



Benefits of Hop Pellets

Here's where T-90 pellets really start to look attractive for use in dry hopping. Pellets store well and keep the "fresh hop" characteristics, essential for dry hopping, better and longer than whole hops do. But, unlike extracts or essential hop oils, T-90 pellets contain all the vegetable and leafy matter of whole hops. They just pack better. By milling and pelletizing the whole hops and then vacuum packing in poly-foil bags, the processor can put the same mass of fresh hops in less than half the volume—reducing exposure to air, and providing less surface area to lose aroma. And surface area is the simple physical factor that makes T-90 pellets ideal for dry hopping.

The reduced surface area and volume of pelletized hops results in a denser pack and helps their storage stability—especially for the "fresh hop" aroma characteristics that seem to last better and longer in a pack of pellets than in a pack of whole hops. (Figure 1). Conversely, when hop pellets are added to beer for dry hopping, they break apart into particles that present a much larger surface area to the beer than do whole hops. (Figure 2). The increased surface area allows T-90 pellets to impart more "dry hop" flavor and aroma to beer faster and at cooler temperatures than whole hops can under the same conditions.

Powdered hop pellets first became commercially available in the early 70s and were appreciated mostly for their increased efficiency in the kettle, and also for their storage stability. Some large brewers at the time, who blended or mixed hops from previous harvests to maintain consistency, came to appreciate the storage stability of pellet hops. Once pellets became commercially viable, brew houses were designed with hop pellets in mind. And, hop pellets were designed for the brew house. Pellets provided for increased isomerization and extract efficiency, and for easier handling. But the same qualities that make pellets work well in the brew house make them equally good in the conditioning tank.

For traditional dry hopping, whole hops are added to the cask before filling with



Figure 1.
1 ounce packaged whole hops (left), 1 ounce
packaged T-90 hop pellets (right).



Figure 2.
1 ounce T-90 hop pellets (left) and 1 ounce
whole hops (right), each in 1 liter of water
at 21° C for one hour.

beer; or if dry hopping in the tank, whole hops are tied in muslin bags to allow the hops to steep in the beer and to prevent clogging the pipes. But it has long been recognized that breaking up the hop cone helps it contribute more as a dry hop. "For real success in dry hopping and in order to impart a good flavor and aroma to the beer, the most important factor is to use broken cones with a fairly rich but delicate aroma."³ T-90 pellets are those gently broken-up hop cones. They're practical to use as a dry hop addition because right out of the pack, they are denser than beer. They sink through the beer when added, and then fall apart after several minutes of contact with the beer. Whole hops, by contrast, float on top of the beer unless weighted or anchored to keep them submerged until they're saturated with beer (Figure 2).

Practical Applications

Practical applications of dry hopping can depend on the physical limits of a brewery, or the sheer imagination and passion of a brewer. Developing a protocol to consistently add dry hop character, flavor and aroma to your beer is essential. Here are a few things to consider when putting together a protocol.

Quantity: First, how much dry hop do you want? There's subtle, sublime, something in between and all-American hopped to the extreme. A good starting point is 50 to 100 grams per hL-1 of T-90 hop pellets in beer in the fermenting vessel. That equals 3.5 to 7 ounces in a 5-gallon batch. That's what the bible says—at least it's what DeClerk suggests.⁴

Process: Next, what is your system built

for? Are you brewing ales in open fermenters, or lagers in cylindro-conical fermenters, or both? Open fermenters are easy to charge with dry hop pellets. Unitanks usually can be charged through a top man-way or pressure relief valve port.

Timing: When to add, how to add and how long? Dry hops are added to finished beer. The beer should be done fermenting and ready to cool when adding dry hops. Beer that is not fully attenuated may gas-off hop aroma and flavor compounds that are intended by the brewer to remain in the beer. Adding the hops at fermentation temperature, but after the beer is fully attenuated, helps to extract aroma and flavor in a shorter amount of time. Steeping them further at cellar temperatures during maturation benefits the beer even more. Good results can be achieved by adding the dry hop charge to the beer a day or two before cooling.

Finished Product: How does one prevent the small particles of powdered hop pellets from showing up in the finished beer? The hop pellet particulate matter that is added to the beer is loose and diffuses for a day or two, and then tends to gradually settle out in the conditioning vessel over the course of the next couple of days. For professional craft brewers, filtering from a conditioning vessel to a bright tank isn't any more difficult if the beer in the conditioning tank was dry hopped with hop pellets. Yes, you'll probably see some hop particles on the filter stack when you clean it, but they don't affect the flow rate or the quality of the filtration. For home craft brewers, simply allowing the particulate matter to settle to the bottom of the fer-

menter, then racking off the clear beer will do the trick.

The bottom line: The qualities that make T-90 hop pellets more efficient and effective in the kettle make them great as a dry hop addition to your beer.

Hugh Burns is the brewer and founder of Williamsburg Brewing Company in Williamsburg, Va. He earned a B.S. in biology from the University of Scranton in 1981. His first love is his wife and six children. His second love is making handcrafted beer.

Resources

1. Grant, H. "Hops." *The Practical Brewer*, Master Brewers Association of the America, 1999: 218.
2. Garetz, M. *Using Hops: The Complete Guide to Hops for the Craft Brewer*. Danville, CA: HopTech, 1994.
3. DeClerk, J. *A Textbook of Brewing*, Volume 1. London: Chapman and Hall LTD, 1957.
4. *Ibid.*

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Last Drop (continued from 64)

how yon canny tun is shaped like your nautilus, sir?" pointed out a wheezing Rob. "Yon snail cooker is compartmented, each compartment smaller than the next in a 4:7 ratio. As the mash cooks, it pushes its way through crafty flapper valves made of sheep's wee bladders, laced onto the compartment walls." Rob showed me a spare #8 valve: soft, supple and stretchy, much like Isotoner gloves. "Ye ken now that the ports are for replacing the valves. The wee ones in the center are a mickle nuisance, and they are terrible prone to blowing out.

"Whin the mash reaches the center and boils, the steam is finally released through yon wee pipey. Whin the note reaches a high A, the cookin's done. Ye ken, Mister Bwana, this is the heart of the snail beer: the snail cooker gives the malt a most wondrous concentration, and the heat and pressure in the inner chambers do things to the mash no ordinary cooker can!" Rob held a tuning fork

up to the whistling steam, and the forks trembled in sympathetic unison. "She's doon!" he cried, and Angus shut down the gas jets.

Rob took me down to the aging cellar, where some 300 17-gallon casks lined the walls. He cranked open the spigot on a tapped cask and caught the pitch-dark brew in a glass jar. "She dropped bright three days ago, and Angus and I have been marvelous tight ever since! Don't take but a wee dram, sir, it's wondrous potent."

Snail beer is traditionally used for killing the sheep used to make haggis. The sheep are force-fed snail beer until they stroke out, then the butcher shares the cask with passers-by as he slaughters the sometimes-spasmodic sheep. It is a joyful and bloodily barbaric ritual, much like a rugby match. The beer is never bottled or sold to pubs, so its fans must develop a nose for fresh sheep's blood.

The beer is lightly hopped, perhaps 22 to 27 IBU (classically with East Orkney Styrian Comets), and displays an amazing range of malt flavors: fresh bread, biscuit, dumpling, Parker roll, caramel, flan, plum pudding, sourdough and even a hint of matzoh. Alcohol by volume ranges from 12.1 to 12.3 percent.

I bid farewell to Rob after we finished the cask. I returned to my hotel room to find a message from my wife about reports of a Prune Lambic in Luxembourg and a Sour Cream Ale in Wisconsin. As I rushed to the airport, I rejoiced that my life was what it was—the pursuit of the world's most amazing beers!

The Beer Bwana is the alter ego of Lew Bryson, who does most of his beer hunting in Pennsylvania, New York and the mid-Atlantic states. His newest book is *Virginia, Delaware and Maryland Breweries*.

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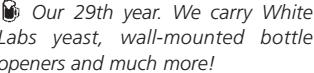
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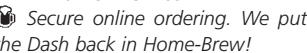
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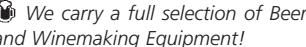
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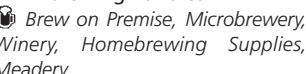
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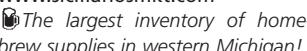
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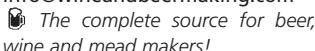
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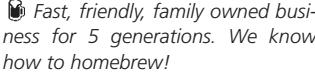
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Snail Beer in Scotland

Editor's Note: Traveling to the farthest reaches of the globe, sifting through myth and memory, the Beer Bwana finds beer styles on the edge of extinction.

I was traveling in Scotland, taking a rare diversion from my usual routine of boldly searching for the world's most unusual beers. I was a guest at the Caber-Cutting Festival, a little-known prelude to the Highland Games. This quaint country celebration revolves around the shaping of the whacking great logs known as cabers, which straining Scots struggle to sling as a competition.

Whilst at the oatmeal-jugging contest, I met a fat, kilted man named Angus MacQuadra. As we watched the cereal-sealing frenzy, I happened to mention to him that *I circle the globe in search of the forgotten romance of beer!* "Is tha right noo, lad?" he gargled through a thick Scots accent. "Mah coozin Rob, he's tha wee boy whin it comes ta beer. Makes tha snail beer, ye ken?"

Snail beer? I sensed that this was a rare beer, known to few: perfect game for The Beer Bwana! I begged him for details. He finally agreed to introduce me to Rob. "Rob's your man, an I canna say further than that!"

Rob MacKerel was a broad, bandy-legged barrel of a man, with the burning eyes of a prophet and the breath of a dragon. He met Angus and me at the gate of his stick farm. "Great hairy gringlers, mon, Angus tells me ye ken not the snail beer!" he growled. "Would ye belike to see it made?" He raised an impatient (and bushy) eyebrow. Of course, I told him, *for finding rare beers is my very life!*

"Och, aye, and making them is mine," he said breezily as he led me into a tin-roofed

outbuilding on his large property. The familiar smell of malt steamed from the brewshack, but I caught most unfamiliar nuances in the aroma. Something was different, something was odd—and odd beer is what I quest for!

Rob threw back the heavy tarpaulin covering the entrance to the brewery. I beheld a queerly shaped copper mash tun, steam whistling fiercely from a small, crooked pipe rising from its center. The gleaming copper was shaped much like a cinnamon roll, and had a spiral seam coiling into the central vent. Tightly dogged inspection ports of decreasing size followed the seam. This was surely the most complicated mash tun I had ever beheld in over 15 hard years of tracking the hidden mysteries of beer!

"Aye, there sits me wee snail cooker. She's a rare beauty, i'nt she noo?" Rob beamed possessively and buckled on a handy bagpipe. As he wheezed life into the wailing instrument, Angus climbed up on the hot mash tun and struck a pose. What followed was one of the strangest brewery tours I've seen

since taking up the quest for
the best of beer.



Rob blew mightily on the screechsack as Angus sang in a reedy tenor and performed an odd step dance.

"Here's the story of the snail beer, how it started one year, the laird was drinking mighty and got hot blood!

"He called for his ale mug, then dumped it on his good rug, he said the ale was horse piss and just no good!

"His brewer, Mac McAndrew, says 'Here, laird, I'll show you, I'll brew you up a special ale to curl your hair!' Angus's shoes were starting to smoke a bit on the hot copper, and he danced faster.

"McAndrew bashed a new tun, more crafty than his old one, and poured the cooking to it, hot as he could dare!

"The mash it circled round there, and boiled into the center, and when the pipey whistled the wort was hot and thick!"

Sweat leapt from Angus's red face and flames were starting round his toes. Rob's eyes bulged from their sockets, but they swung into the finale.

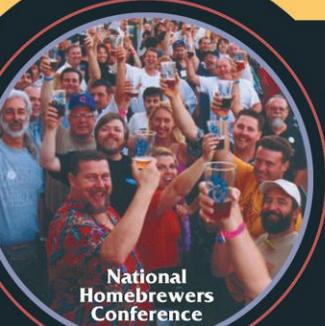
"When the ale was prepared, Mac gave it to his good laird, he says 'Now this is good, ye canna beat it with a stick!'

"The laird he took a big drink, about a quart I should think, his peepers bulged a bit and his face was red!

"But when he started breathing, a smile his face was wreathing, he put his lairdly helmet on McAndrew's head!" Angus leapt nimbly from the copper into a handy bathtub full of cool custard and joined Rob in a bow.

"Now, do ye see (continued on page 57)

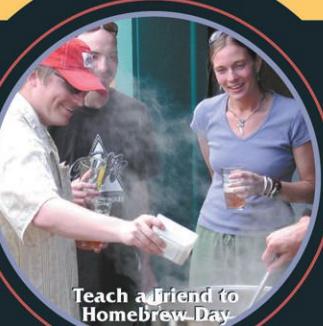
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