

**July is American Beer Month!**

Vol. 25 No. 4 July/August 2002 The Journal of the American Homebrewers Association

# ZYMURGY

**FOR THE HOMEBREWER AND BEER LOVER**

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of Fruit in Beer**

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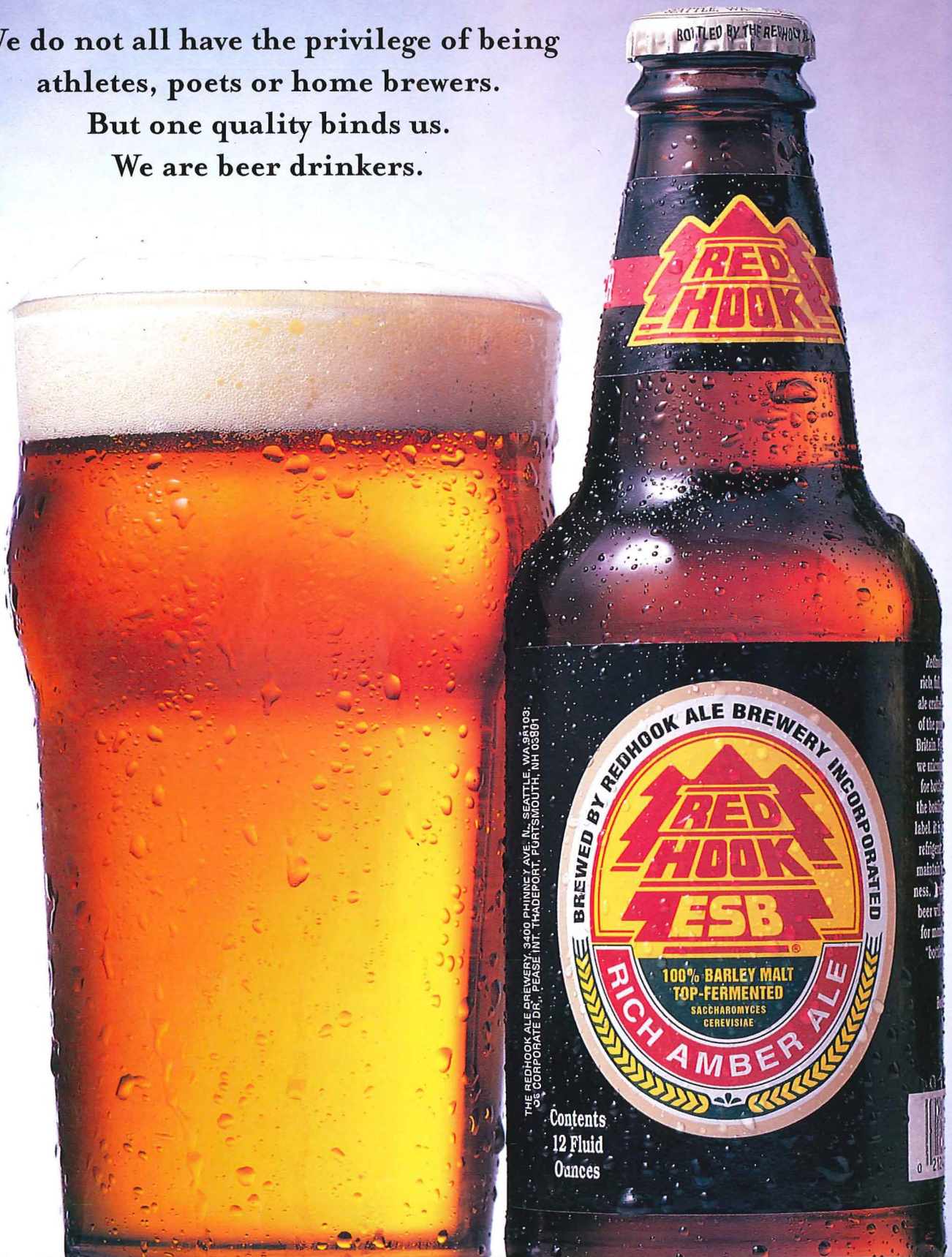
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**AOB on the Road  
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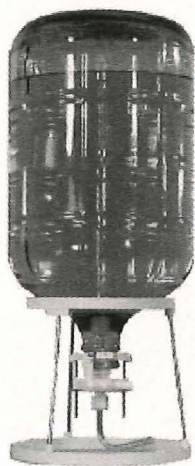
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# ZYMURGY®

FOR THE HOMEBREWER AND BEER LOVER

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JULY/AUGUST 2002, VOL. 25, NO. 4

# ZYMURGY®

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

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By Randy Mosher

**FROM GRAIN TO GRAPES: WINE MAKING FOR BREWERS** 26

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By Alan Moen

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What's old is new again! After years of working to get people away from dumping table sugar into their beers and undermining its flavor, a new breed of brewing pioneers seeks out mysterious dark flavorful sugars and gently doses them into beers. And surprise! You can get great flavors in beer from this oft despised source.  
By Bob Grossman

**GERMAN SOFT PRETZELS: A TWISTED ALTERNATIVE TO BREWING** 40

Fresh homebrewed beer cries out for a suitable culinary companion and sometimes the perfect match is a hot soft pretzel. Our favorite baker/brewer gives up the secrets long held by German bakers for making up a perfect brown, bready treat.  
By Jeff Renner

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A pictorial review of Charlie Papazian's spring swing through the Midwest to visit homebrew stores, homebrew clubs and brewpubs.

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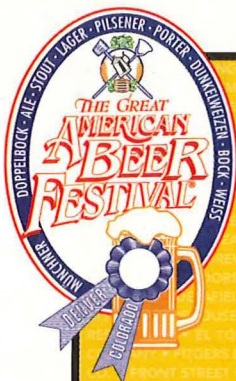
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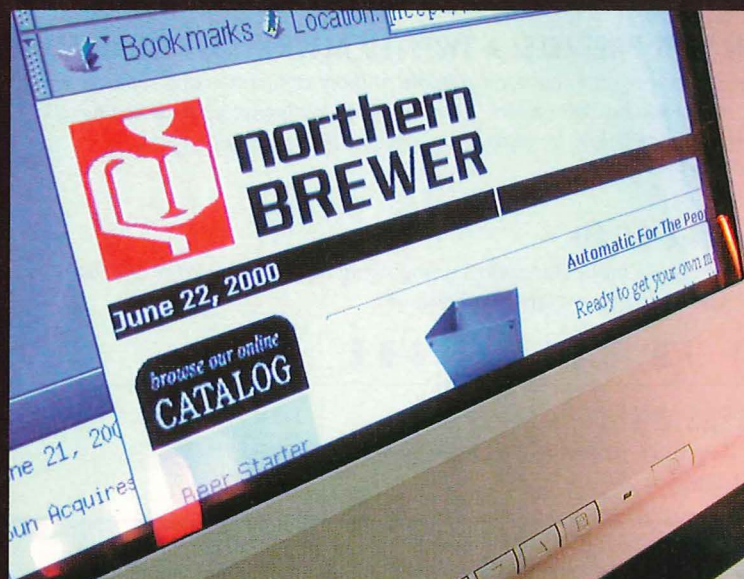


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BY PAUL GATZA

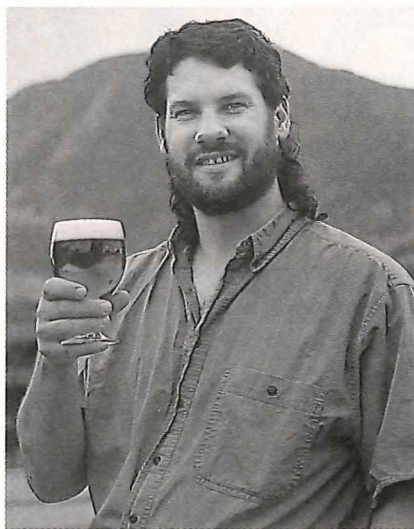
# Now Mead Will Have Its Day

**H**i everyone. I hope your summer is off to a great start with lots of homebrew-related celebrations. My writing beer is an old ale, selected for its properties that for me inspire long-term reflection and meandering. Please bear with any digressions as I get around to our newest program for brewers.

May news reports declared that the first three months of 2002 had been the hottest first quarter in the 100-plus years that world temperature records have been kept. The current climate trends do not bode well for brewers who have to ferment without air conditioning in the Northern Hemisphere this summer. There are lots of tricks for keeping fermenters cool in the summertime. If you are looking for ideas, check out Dean Fikar's article in the July/August 2000 "Beat the Heat" issue of *Zymurgy*.

I am a homebrewer who relies on what has worked for me rather than what brewing science may state, particularly in the area of meadmaking. For example, I sometimes boil my musts because the three best meads I have tasted all were boiled for a few minutes. Boiling, in theory, can reduce the honey aromatics. Another example is that I brew meads in summer because I have found them to be more forgiving of elevated fermentation temperatures than beers. The way my unscientific mind sees why it works is that the higher temperatures create higher-chain alcohols, which break down during the many months it takes a mead to reach completion. Blasphemy? No. It's homebrewing. If I were in hurry to get my mead from the kettle to the table, I would regulate fermentation temperature. Which brings us to the topic of Mead Day.

Long-time homebrewer and AHA supporter Ed Busch suggested we have a Mead Day. If you look at the annual AHA calen-



dar, we have the AHA Big Brew and National Homebrew Day on the first Saturday of May and Teach a Friend to Homebrew Day on the first Saturday of November. Exactly between them is the first Saturday of August, which will be the new official Mead Day—this year on Aug. 3.

Mead Day will function like the other social brewing days we coordinate. There will be an online registration and remittance area with an official recipe. Dick Dunn, the

moderator of the Mead Lovers Digest, has designed a recipe, but feel free to write your own or modify Dunn's to your own preferences. Visit [www.talisman.com/mead](http://www.talisman.com/mead) for more information on the Mead Lovers Digest. Visit [www.beertown.org](http://www.beertown.org) for registration and program information.

## American Beer Month

As part of the campaign to raise the image of beer quality and raise awareness of beer diversity with the American public, the Association of Brewers<sup>SM</sup> is again promoting July as American Beer Month. So celebrate American beer as a great beverage that unites people in a spirit of camaraderie and good times, as a beverage that has proven integral to the flow of ideas in a free society and as a beverage that can be paired with all sorts of fine foods.

This year's campaign will be more of a grassroots movement. America's craft brewers and AHA membership liaisons will be getting the word out about American Beer Month at festivals and other events around the country throughout the early summer. Also gone is the American Beer Month pledge. American (continued on page 9)

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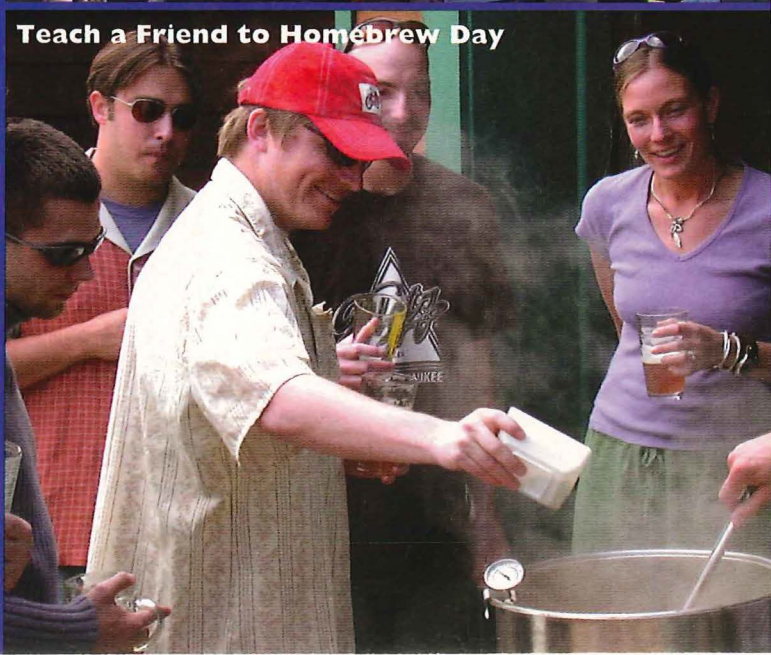
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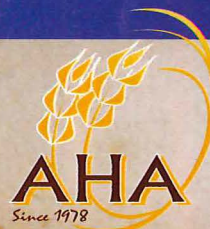




# American Homebrewers Association

## Why Join?

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- ★ **AHA TechTalk Homebrewers Email Forum** Beer and brewing questions answered every day by the most experienced homebrewers.
- ★ **Great American Beer Festival® Discounts** Discounts to the Great American Beer Festival Connoisseur Tasting session.
- ★ **Competition and Conference Discounts** Discounts to the annual AHA National Homebrew Competition and AHA National Homebrewers Conference. Fun with fellow homebrewers at the largest homebrew competition and homebrewers conference in the world!
- ★ **Beer and Brewing Books** Cooking-with-beer books, how-to-brew books, beer-and-travel books and much more!
- ★ **www.beertown.org** Up-to-date information on breweries, homebrew shops and clubs, beer festivals, homebrew events and competitions nearest you.
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American Homebrewers Association  
A Division of the Association of Brewers





# This July . . .



. . . the American craft brewing industry will again join together to celebrate the quality and variety of American Beer during American Beer Month. For more information on how you can join in the celebration, contact the Association of Brewers.

## American Beer Month<sup>SM</sup>

*July is American Beer Month. Celebrate American Beer!*

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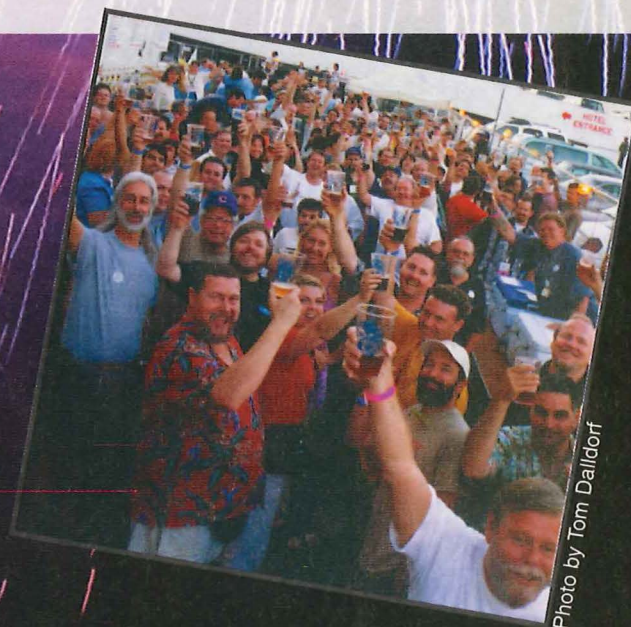


Photo by Tom Daildorf

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Institute for Brewing Studies  
A Division of the Association of Brewers





### Beer Talk (from page 5)

Beer Month is not about exclusion—it is about celebration and participation. I encourage all homebrewers to connect American Beer Month to whatever festivals or homebrew club events you have going on this summer. Visit [www.americanbeermonth.com](http://www.americanbeermonth.com) for more information.

### Pub Discount Program

American Beer Month also coincides with the Pub Discount Program kickoff for AHA members. The current list of participants offering deals to AHA members beginning July 1 is on [www.beertown.org](http://www.beertown.org). To take advantage of this new AHA benefit, you will need to bring your AHA membership card with you to participating establishments. I know I am looking forward to my AHA membership paying for itself. In addition to all the other great benefits, what a bonus!

### Beer Judges Wanted

The AHA National Homebrew Competition (NHC) grew to more than 3,000 entries this year. One area that has not grown in the past several years is the number of active beer judges. The homebrew competitions around the United States need your help to ensure that existing palates are not overtaxed, compromising the quality of beer judging. To find out what is involved in becoming a certified beer judge, and to download study materials, check out the Beer Judge Certification Program (BJCP) at [www.bjcp.org](http://www.bjcp.org). NHC Director Gary Glass says we barely had enough judges to handle the first round of the NHC, and that if the competition grows by another 300 to 400 entries again next year, the current judge pool will be in over their heads in homebrew. Judging is a service to the hobby, and it's fun! Check it out.

### Got Homebrew Photos?

**Zymurgy** Art Director (and Pittsburgh Penguins fan) Dave Harford is looking for your cool pictures of brewing and shots of the homebrew camaraderie. See his note at the end of the Clubs Report on page 14 for the specifics of what he is looking for and in what format. You may see your photos in **Zymurgy**!



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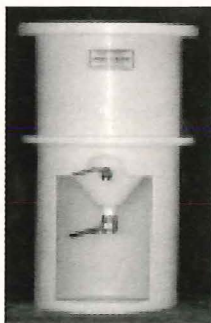
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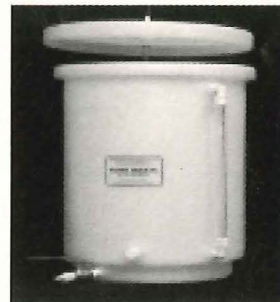
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BY RAY DANIELS

# The Seven Deadly Sins of Beer Serving

**T**hanks to the weather this time of year, even those of us who are dedicated beer drinkers year round quaff a bit more of our favorite fluid to fight the heat. Summertime means outings with friends, ball games and vacations. Often, we drink beer that we didn't make in a place other than our own home.

More often than not, such road trips lead to a rude reintroduction to the fact that beer gets no respect. Let's face it, even the greenest bartender knows that a bottle of Merlot should be served a certain way, but beer's need for proper serving procedures never occurs to them. Although both beer and wine are similar in their production and chemical content, most people view beer as some inert, unchangeable fluid that will taste the same no matter how it is served.

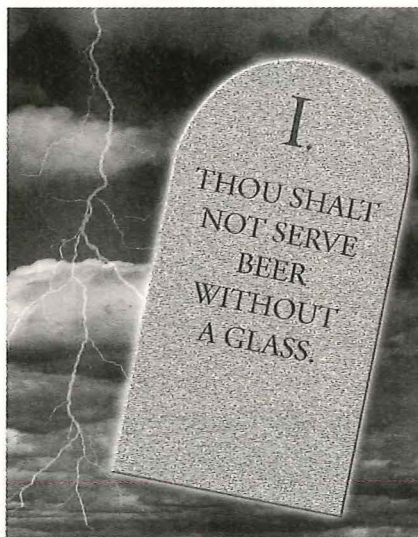
To help servers understand, I've fashioned a list of the Seven Deadly Sins of Beer Serving. If your server commits these sins, you have the right to expect better. Maybe leaving a copy of this article on the bar instead of a tip will help them get a clue.

**Sin No. 1: Beer Without a Glass** People who drink wine or booze straight from a bottle get thrown out of respectable establishments. Not so with beer. Too many bartenders still think they are done with you when they've pulled the cap off your beer and slid the bottle across the bar. When this happens, I gaze back at my server knowing that I am looking at a person who eats the peel with his banana, the tails with his shrimp and the box with his cereal.

"Excuse me, bartender," I say, "do you think it would make much of a mess if I poured my beer out on the bar?"

Unprintable expletives come in reply.

"Well maybe if you put a glass down right here we can keep most of it contained in one place," I conclude while beginning to tip my bottle into pouring position.



## Sin No. 2: Beer in a Frosty Glass

Twenty years ago, "ice cold" was the accepted serving temperature for beer. Let's get real, water tastes good below 40 degrees, but beer doesn't. With today's full-flavored beers, the colder they get, the less you can taste. My advice: Save the frosty glasses for kiddy drinks and vodka cocktails. Waitresses who bring me a beer without a glass to begin with will be admonished to bring one that isn't frosted when they come back.

**Sin No. 3: Unwanted Garnishes** OK, some folks like a garnish for their beer, but many don't—even when it is supposed to be traditional. I can overlook a lemon perched on the rim of my weizen glass or a bit of lime nestled on the top of a Tecate can. All I ask is that servers do their best to keep the fruit's juice out of my beer. Squeezing fruit into beer is *verboten*. And please do not test the buoyancy of said fruit by tossing it into the beer for a swim. If you want to teach some fruit the backstroke, do it in your own beer!

**Sin No. 4: The 10-ounce Pint** Pints are a slippery thing in America. We regard

the word *pint* as a description, something like *glass* or *bucket*, rather than a unit of measure that is supposed to equal 16 ounces.

Restaurants are usually the big offenders here. The menu says "pint," but the stemmed glass they serve can't hold much more than half that amount. "Oh, a pee-wee pint," I say when the beer arrives. "When do I get the rest of it?" Further harassment is optional.

## Sin No. 5: Pouring the Yeast Sludge

The yeast sludge lurking on the bottom of many beer bottles is gross. Still, some servers pour bottle-conditioned brews until every drop of beer—and all of that sludge—hits the glass. If you complain, they'll say it improves your sex life, cures hangovers and keeps your coat nice and shiny. Some will tell you Germans believe in the healthful effects of yeast so much that their beer halls offer dispensers where patrons can add a dollop or two to their beer.

For me, it is no contest. I see that sludge in my beer as equivalent to a fly in the soup, but others feel it is as insignificant as insisting on Sweet 'n Low when there is Equal right on the table. Savvy servers will either ask or let the customer pour his or her own beer.

**Sin No. 6: Short Fills** A bit of foam on the top of your beer is a wonderful thing, but headspace is subject to abuse. When there's an inch of space between the top of the beer and the top of the glass, the following conversation might ensue.

"Excuse me bartender," says the patron, "Do you think that you could get a shot of your finest whiskey in this glass?"

"Looks like there is plenty of room; is that what you would like?" asks the barkeep.

"Sure," says the patron, "but don't you think it would have (continued on page 62)



## OUR READERS

### Saison Season

Dear **Zymurgy**,

Recently, as the weather has begun to get warmer and one of my very special job benefits returned (the free sauna on brew days), I began to think of refreshing summer beers.

"I am going to brew a Saison," I told myself. And since I have never brewed a Saison before, I also had to tell myself, "Time to do some research!"

Returning home from work that very day, on my desk was the new issue of **Zymurgy** with Tomme Arthur's article "Farmhouse Ales." Superb timing! Excellent information! Keep up the good work,

Chuck Skyepeck  
Brewer & Owner  
Boscows Brewpubs  
Memphis, Tenn.

Dear **Chuck**,

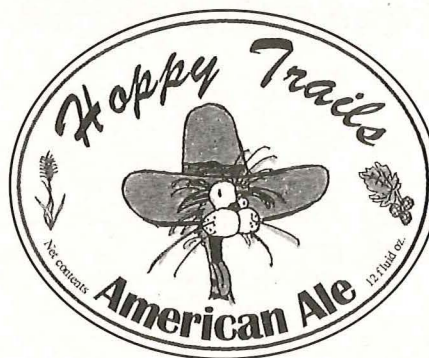
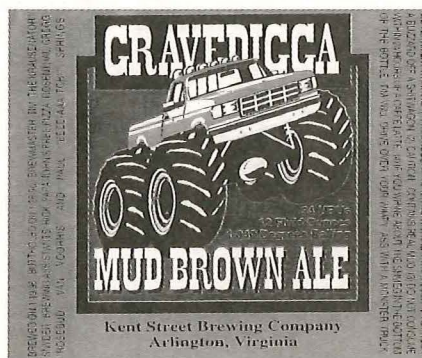
*Thanks for the kudos and for your continued interest in and support of Zymurgy. We try to keep things interesting and relevant. I guess if we are still providing useful information to old pros like you, then we can't be too stale. With any luck, some of our readers will wander by one of your places in Nashville, Memphis and soon Little Rock to taste your latest creations.*

—Editor

### Windy City Indeed

Dear **Zymurgy**,

What a pleasure it was to grab the new **Zymurgy** from my mailbox and see several efforts by my local Chicago Beer Society authors featured: Jeff Sparrow's article on witbier and Steve Hamburg and Tony Babinec's reprise of their "Bitter Men" article were both extremely interesting reading. I also enjoyed Ray Daniels' moving tribute to the late Dr. George Fix.



Nice job to all!

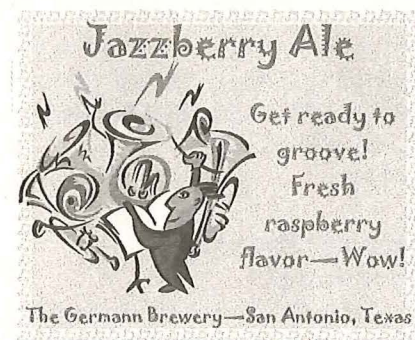
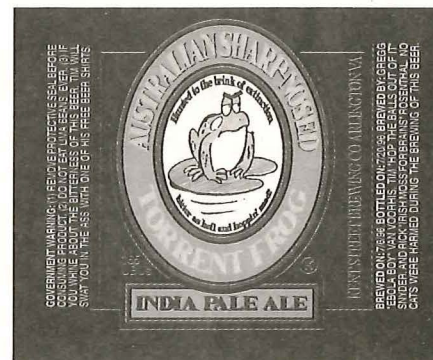
Roger Deschner  
Chicago Beer Society  
Chicago, Ill.

Dear **Roger**,

*Thanks for noticing the talented folks who see fit to write for us. So long as they ring the bell for our readers, we'll keep supplying them with space for their words.*

*You graciously failed to point out our misspelling of "memoriam" on the cover and in the obituary for George Fix. Unfortunately, perfection continues to elude us—we only wish it wouldn't strike at such inopportune times. We hope everyone will accept our apologies for the error.*

—Editor



### Bubbles In Space

Dear **Zymurgy**,

I thought you'd be interested in this story from Science@NASA:

"Faraway astronauts must yearn sometimes for the simple comforts of Earth—like a refreshing soda or a beer after work. But one wonders: Would the cheerful bubbles of a space-soda rise to the top and tickle one's nose? And could a frosty space-beer form a proper head? These questions sound tongue-in-cheek, but researchers are serious about finding the answers. Recent experiments with orbiting beers and sodas promise a more normal day-to-day life for space settlers and offer revealing lessons about physics and biology in microgravity.

"The behavior of the yeast was somewhat puzzling, though. The total cell count



in space-borne samples was lower than that of 'control' samples brewed on the ground, and the percentage of live cells was also lower.

"To keep carbonation from coming out of solution too quickly, beverages were dispensed into a collapsible bag inside a pressurized bottle."

For the full story, see [http://science.nasa.gov/headlines/y2001/ast21sep\\_1.htm?friend](http://science.nasa.gov/headlines/y2001/ast21sep_1.htm?friend).

Richard Delphi  
Oracle Brewing Depot  
Truth or Consequences, N.M.

Richard,

*Thanks for the visionary look into the future of beer. The legendary Pete Slosberg (of Pete's Wicked Ale fame) once told us that the ancient Egyptians used to drink their beer with straws. Seems it was necessary back then to separate the beer from the grains as lautering had not yet been invented. Looks like the future will send us back to straws as a beer-delivery device—at least where zero gravity pint sipping is concerned. We wonder who will be the first to use the name Zero Gravity Brewing Co.?*

—Editor

## Decoction Figures MIA

Dear Zymurgy,

I had just read the article "Boiling Your Mash into a Decoction" by Steve Alexander in the March/April 2002 issue of *Zymurgy*. It is good to see information about decoction mashing; I do decoction mashes when it fits the beer style.

It appears that something has gone wrong, though. There are two references in the text to figures that appear to be left out of the publication. The references are: "Figure 1 shows the temperature steps for a classic three-step decoction in detail." And later in the article: "The abridged two-mash process shown in Figure 2 includes a mash in at 143° F." These figures are missing, but there is an unlabeled figure that describes single decoctions.

I personally would like to see Figure 2. Figure 1 is probably the same as one I follow from Randy Mosher's *The Brewer's Companion*.

LeoVitt  
Rochester, Minn.

Figure 1: Triple Decoction

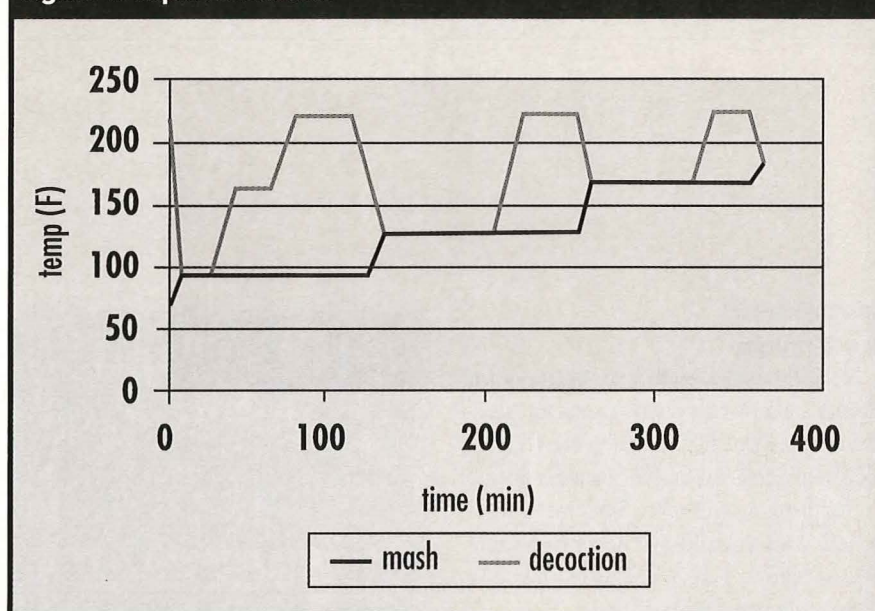
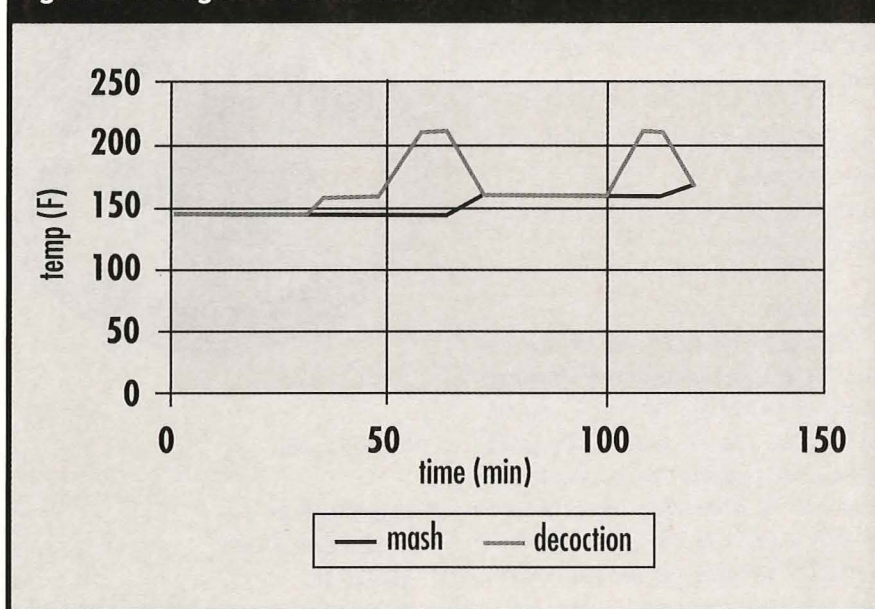


Figure 2: Abridged Two-Mash Process



Dear Leo,

*Some issues there is so much great stuff to get into the magazine we just run out of places to put it all. In this case we consolidated the figures into one item and then forgot to change the text. Our bad. In any case, the original figures, as submitted by Steve Alexander are shown above. Thanks for keeping us on our toes!*

—Editor

## Club Comp Comments

Dear Zymurgy,

Why does it take forever to find out the results of the AHA's Club Only Competitions? I have asked you this question before. If you expect Homebrewers to take it seriously you should treat it more like an event rather than just something you list in *Zymurgy*.

Some members of my local Denver Homebrew Club thought it (continued on page 60)



BY GARY GLASS

# Cleveland Homebrewers Host Four Events With Style

**T**hink your club's got what it takes to put on a major event like the Masters Championship of Amateur Brewing (MCAB)? How about pulling together more than 200 beer lovers for a chance to share beers and brewing knowledge with two of the heaviest hitters in the beer world, Michael Jackson and Charlie Papazian? Would your club's members be interested in helping out with the premier conference and trade expo for the craft brewing industry and schmoozing with the biggest names in craft brewing? How would your club members feel about participating in the most prestigious commercial beer competition in the world, where top BJCP judges and professional brewers from around the globe come to judge the world's best beers? Yeah? How about doing it all in one week!

That's exactly what the Cleveland-area homebrew clubs did last April. The Society of Northeast Ohio Brewers (SNOBs), Society of Akron Area Zymurgists (SAAZ) and Route 82 Homebrewers Association joined forces the second week in April for their first concerted multi-club effort to help with the Associations of Brewers' World Beer Cup and Craft Brewers Conference, the final stop of Papazian's latest AOB On the Road tour and the MCAB. As you can probably imagine, homebrew club members put in a lot of hard work planning for these events.

Things kicked off Tuesday, April 9, with the first of two days of World Beer Cup judging. The local homebrewers, along with several homebrewers from around the country, were there to help steward and serve as table captains. World Beer Cup Beer Manager Danny Williams, who has worked with volunteers at the Great American Beer Festival for several years, was extremely impressed with the enthusiasm of the Ohio-area homebrewers. "These guys were psyched," Williams said. Tom Hood of SAAZ did an



impressive job of organizing and motivating the local homebrewers for the competition. The volunteers went home smiling with cases of beer sent from breweries around the world, much of which probably will never be available in the United States.

That evening, the Cleveland-area homebrewers and Great Lakes Brewing Co. hosted the last stop of the Midwest AOB On the Road tour. It was an impressive turnout—200 to 225 beer lovers, homebrewers and professional brewers gathered to hear Papazian and Jackson speak and to share a few pints with these beer icons. Not bad for a Tuesday night, eh? With help from Chuck Bernard, AHA liaison and event co-organizer, Papazian and his wife Sandra

managed to sell 26 years worth of AHA memberships that night. According to Bernard, AHA and IBS Director Paul Gatz, who coordinated Papazian and Jackson's night of homebrewer revelry, deserves much of the credit for the event's success. The local homebrewers and the Great Lakes staff did an excellent job of planning and promoting the gathering.

When the BrewExpo opened during the Craft Brewers Conference (CBC) on Friday, homebrew club members were there as volunteer badge checkers. Volunteering gave these lucky homebrewers an opportunity to cruise the BrewExpo floor and check out the

## Homebrew Club of the Year Standings

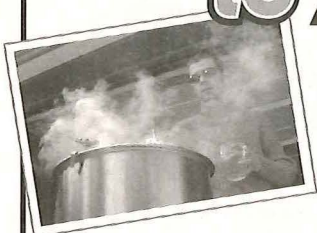
| Points | Club                               |
|--------|------------------------------------|
| 13     | ZZ HOPS                            |
| 6      | CRAFT                              |
| 6      | Foam on the Range                  |
| 6      | Wort Hogs                          |
| 3      | Brew Rats                          |
| 3      | Hogtown Brewers                    |
| 3      | Long Beach Homebrewers             |
| 3      | Niagara Association of Homebrewers |
| 3      | Prairie Homebrewing Companions     |
| 2      | Iowa Brewers' Union (IBU)          |
| 1      | Pint and Pummel                    |
| 1      | Urban Knaves of Grain              |

## Upcoming 2002-2003 AHA Club-Only Competition Styles

| Month      | Style or Name                 | Cat.#  | Host                              |
|------------|-------------------------------|--------|-----------------------------------|
| Aug.       | American Lager                | 1      | Beer Unlimited Zany Zymurgists    |
| Sept./Oct. | Strong Belgian Ale            | 18     | Minnesota Homebrewers Association |
| Nov./Dec.  | Fruits & Veggies              | 21, 22 | Dukes of Ale                      |
| Jan./Feb.  | Bitter & English Pale Ale     | 4      | Minnesota Timberworts             |
| Mar./Apr.  | Brown Ale                     | 10     | Prairie Homebrewing Companions    |
| May        | English & Scottish Strong Ale | 11     | Rillito Creek Brew Club           |



# Submit Your Photos to Zymurgy!



**If you have photos of your homebrew club or brewing event, we'd like to see them! Send them to us and you may see them published in the next issue of *Zymurgy*!**

## Send your slides or prints to:

Dave Harford, Magazine Art Director, The Association of Brewers  
736 Pearl Street, Boulder, CO 80302

Digital photos can be emailed to: [harford@aob.org](mailto:harford@aob.org)

**Call (303) 447-0816 x127 or contact [harford@aob.org](mailto:harford@aob.org) before sending photos for details or instructions on submissions.**

## Porter Club-Only Competition

Thanks to Phil Clarke and the New York City Homebrewers Guild (NYCHG) for hosting the Porter Club-Only Competition March 30, 2002. This was the fifth of six competitions in the August-to-May 2001-2002 cycle, with points going toward the Homebrew Club of the Year trophy. Points are awarded on the old six-three-one system for the Club-Only Competitions and the first and second rounds of the AHA National Homebrew Competition. The club whose members amass the most points during the year is crowned the Homebrew Club of the Year.

With 54 entries, the Porter Club-Only Competition was the largest we've had in at least three years. Thanks to all of the club representative brewers who entered. Keep those entries coming.

## Congratulations to the following winners:

### 1st Place:

Mike McGuire of Vienna, Va., representing The Wort Hogs with a Brown Porter.

### 2nd Place:

Wayne Smith of Micanopy, Fla., representing the Hogtown Brewers with a Robust Porter.

### 3rd Place:

Shane Coombs of Warrenville, Ill., representing Urban Knaves of Grain with a Robust Porter.

latest technological innovations in brewing. They did a great job and had fun doing it. It was great to see homebrewers contributing to the success of a professional brewers' conference.

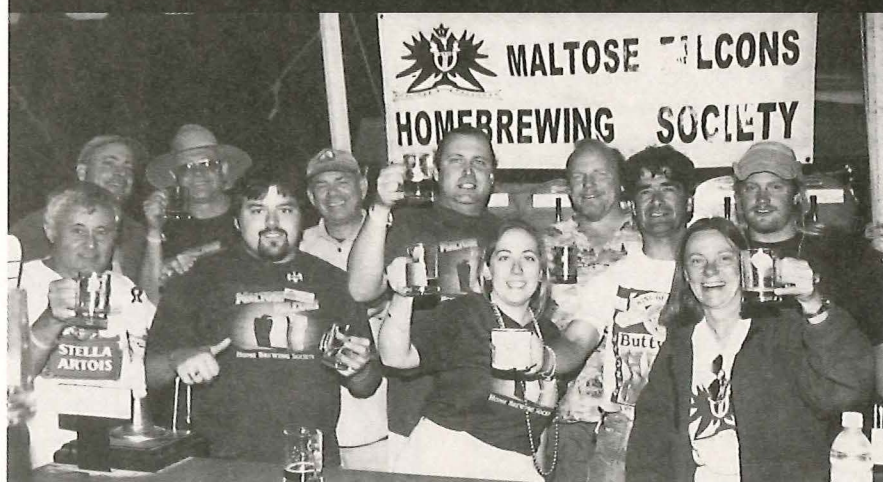
For the fourth annual MCAB, AHA Board Member Louis Bonham, one of the competition's founders and organizers, contacted Gatza about running the MCAB in conjunction with the CBC. With all of the

brewing talent coming to Cleveland, the organizers thought it made sense to piggy-back the events. MCAB was able to pick up several speakers, including Chuck Skypeck of Nashville, Tenn.-based Boscos Brewing Co. who spoke about his juniper stein beer. Having MCAB at the same time and in the same hotel as the CBC provided yet another event for the energetic Cleveland clubs to take on that week. CBC Director Nancy Johnson and the Association of Brewers helped MCAB by providing rooms for judging, a hospitality suite at the hotel, water and bread for the judges and by offering lower hotel room rates for judges.

With both events in the same hotel, the Cleveland Renaissance became a giant playground for brewers. The hotel bar served as a gathering spot for both professional and amateur brewers. As I scurried around the hotel, working beer services for the CBC, I ran into several homebrewers from around the country, including Tom Moench of the Central Florida Home Brewers, Michigan brewers Phil Wilcox of the Prison City Brewers and Jeff Carlson of the Prime Time Brewers, and Ohio Brew Rats Art Beall and Jack Kephart (thanks for the barleywine guys!).

For a group of three homebrew clubs to put together four major events in one week is extraordinary. Chuck Bernard, president of SAAZ in Akron and a member of SNOBS in Cleveland, admitted that it was an amazing amount of work (*continued on page 61*)

## From Our Readers



**Some of the members of the Maltose Falcons at their booth during the Southern California Homebrews Festival.**

PHOTO BY MATTHEW UDALL



### June

**20-22 AHA National Homebrewers Conference - Big Texas Toast!** Irving, TX. AHA SCP. The Conference got so big we had to move it to Texas! The 2002 Conference will be held at the Wilson World hotel, home of the Bluebonnet competition, in the Dallas-Ft. Worth metro area. Contact: Gary Glass. Phone: 303-447-0816 x 121, 1-888-U-CAN-BREW, Email: gary@aob.org. URL: www.beertown.org.

**28-30 15th Annual Southern California Homebrew Championship.** Corona, CA. AHA SCP. Last year Inland Empire Brewers gave out over \$2500.00 in prizes. 1st 2nd and 3rd places received ribbons and prizes for all categories. Drop off entries to the Main Street Brewery in Corona or Send them to Brandon Ness. Deadline: 6/10-6/25. Fee: 1st entry is \$7.00; add. entries are \$6.00 with a cap of \$60.00 max for 10 or more entries. Awards Ceremony: 6/30. Contact: Brandon Ness. Phone: 909-737-6869. Email: bness1@earthlink.net. URL: www.hopheads.com.

**29 Mother Lode Fair Homebrew Competition.** Mother Lode Fairgrounds, Sonora, CA. AHA SCP. Judging will begin at 11am. This competition is open to all CA residents. Entry Forms and entry fee must be received by June 18, 2002. All beers must be received by 5pm, Tuesday, June 25, 2002. You may have your entries delivered to Mother Lode Fair Administration Building, 220 Southgate Drive, Sonora, CA 95370. Sponsoring Club: Parrott's Ferry Home Brew Club. Deadline: 6/3-6/18. Fee: \$5. Contact: Bill Neilson. Phone: 209-533-0360, 209-532-7428. Email: neilson@pfhbc.org.

**June 29 - July 6 Orange County fair Homemade Beer Competition.** Costa Mesa, CA. This competition is open to all California residents. Sponsoring Club: Barley Bandits. Deadline: 4/9-6/15. Fee: \$5 for 1st, \$2 for add. Award Ceremony: 7/20. Contact: Love Royer/ Todd Howes. Phone: 714-708-1554, 949-642-2132. Email: lroyer@ocfair.com. URL: www.ocfair.com.



### July

**12-13 8th Annual Commander SAAZ Interplanetary Homebrew Blastoff.** Melbourne, FL. AHA SCP. You don't have to be a rocket scientist to brew great beer, but it helps! The Spacecoast Associates for the Advancement of Zymurgy (SAAZ) invite all homebrewers to enter this year's competition. All BJCP categories and subcategories will be judged. Deadline: 6/24-7/9. Fee: \$6. Awards Ceremony: 7/13. Contact: Steve Mitchell. Phone: 321-724-1363, 321-984-1671 x 252. Email: samitchell@cfl.rr.com. URL: http://home.att.net/~the81union/wsb/index.html.

**12-28 Orange County fair Home-made Beer Competition.** Costa Mesa, CA. This competition is open to all California residents. Sponsoring Club: Barley Bandits. Deadline: entry form and fees due 6/15. Fee: \$5 for 1st, \$2 for add. Award Ceremony: 7/20. Contact: Love Royer/ Todd Howes. Phone: 714-708-1554. Email: lroyer@ocfair.com. URL: www.ocfair.com.

**13 E.T. Barnette Homebrew Competition.** Fox, AK. AHA SCP. The Grand Prize for Best of Show is \$500! Prizes will also be award for the 1st, 2nd and 3rd place winners of the judged Classes. Six Classes will be judged Light Ale, Dark Ale, Light Lager, Dark Lager, Specialty/Mixed Style and Meads. Sponsoring Club: Zymurgist Borealis Homebrew Club. Deadline: 6/24-7/10. Fee: \$5. Award Ceremony: 7/20. Contact: Scott Stihler. Phone: 907-474-2138, 907-474-5450. Email: stihlerunits@mosquitonet.com. URL: www.mosquitonet.com/~stihlerunits/Scott Den/Beer/Events/Events.html.

### AMERICAN HOMEBREWERS ASSOCIATION

#### • KUDOS • SANCTIONED COMPETITION PROGRAM BEST OF SHOW

##### • FEBRUARY 2002 •

Feb Fest 2002, 51 entries - **Doug Newberry** of Batavia, IL

##### • MARCH 2002 •

9th Annual America's Finest City, 340 entries - **David Sapsis** of Sacramento, CA  
Iowa Brewers Union 2002, 155 entries - **Mark Adams** of Des Moines, IA

Bluebonnet Brewoff, 814 entries - **Bob Carbone** of the  
Shreveport Urban Diastatic Sparges of Shreveport, LA

March Mashness Homebrew Competition, 114 entries - **Erik Nelson** of Saul Rapids, MN  
Drunk Monk Challenge, 408 entries - **Rick Georgette** of West Bloomfield, MI  
12th Annual Hudson Valley Homebrewers, 153 entries - **Bill Odendahl** of Trumbull, CT

##### • APRIL 2002 •

Slurp & Burp, 303 entries - **Mike Szwaya** of Portland, OR

**AHA SCP** = American Homebrewers Association Sanctioned Competition Program

The Calendar of Events is updated weekly and is available from the Association of Brewers: info@aob.org or www.beertown.org on the web. To list events, send information to **Zymurgy** Calendar of Events. To be listed in the September/October Issue (Vol. 25, No. 5), information must be received by July 5, 2002. Competition organizers wishing to apply for AHA Sanctioning must do so at least two months prior to the event. Contact Kate Porter at kate@aob.org; (303) 447-0816 ext. 123; FAX (303) 447-2825; PO Box 1679, Boulder, CO 80306-1679.

**14 Buckeye Brewer of the Year.** Ashtabula, OH. AHA SCP. Open to all BJCP categories. BOS to be brewed and served at local brewery. Buckeye Brewer of the Year, best combined score, will win an inscribed mug. Dollar awards and AHA ribbons will be awarded for: 1st - \$5, 35 pts or up; 2nd - \$4, 30 pts or up; 3rd - \$3, 25 pts or up. Please send 2 bottles per entry. Sponsoring Club: Ashtabula Area Homebrewers. Deadline: 5/6-6/30. Fee: \$14 for 4. Contact: Dave Martin. Phone: 440 563-3029. Email: mbworks@alltel.net.

**20 Ohio State Fair Homebrew Competition.** Columbus, OH. AHA SCP. This competition is open to all Ohio residents and will follow the guidelines established by the BJCP. Sponsoring Club: SODZ. Deadline: 4/15-6/20. Fee: \$5. Contact: Brett Chance. Phone: 614-644-4126. Email: b.chance@expo.state.oh.us. URL: www.ohiostatefair.com.

**20 Overthrust Brewfest.** Evanston, WY. AHA SCP. We are a non-profit organization raising money to distribute back to local charities. This year we are hosting a homebrew competition in conjunction with our Chili Cook-off. Your entry fee is for a booth space. Only brewers who have purchased a booth space are entered into this competition. Please contact Dawn Kirkwood for more info. Sponsoring Club: Evanston Chili Cook-Off Committee. Deadline: Now-7/12. Fee: \$25. Awards Ceremony: 7/20. Contact: Dawn Kirkwood. Phone: 307-789-7042, 307-783-7456. Email: dawn.kirkwood@adelphia.

### August

**3 Foam Cup 2002.** Tulsa, OK. AHA SCP. Sponsored by the Fellowship of Oklahoma Ale Makers, this competition is the third leg of the high Plains Brewer of the year. Deadline: 7/28. Fee: \$5. Contact: Robert Gulley. Phone: 918-381-2146, 918-925-6409. Email: gullywvshr@juno.com. URL: www.alemakers.com.



- 3 Montgomery County Ag Fair -** 7th Annual Homebrew Competition. Gaithersburg, MD. AHA SCP. Sponsoring Club: GABS. Deadline: 7/1-7/27. Fee: \$5. Awards Ceremony: 8/10. Contact: Bill Lawrence. Phone: 301-903-9314, 202-884-4028. Email: billyl@erols.com. URL: [http://G\\_A\\_B\\_S.tripod.com](http://G_A_B_S.tripod.com).
- 3-4 Michigan State Fair Homebrew Competition.** Detroit, MI. AHA SCP. Michigan's largest competition exclusively for Michigan homebrewed beer. Sponsored by the Ann Arbor Brewer's Guild. Deadline: 7/15-7/29. Fee: \$12. Awards Ceremony: 8/24. Contact: Jim Suchy. Phone: 734-722-9238. Email: MSFHOME-BREW@Hotmail.com. URL: <http://hbd.org/michigan>.
- 3-4 Lunar Rendezbrew IX.** Seabrook, TX. Community Center. Contact: Guy Munster. Phone: 281-286-5566. Email: guymunster@earthlink.net. URL: <http://LunarRendezbrewIX>.
- 10 Mt. Brewer Open.** Huntington, WV. AHA SCP. Sponsoring Club: Greater Huntington Homebrewers Association (GHHA). Deadline: 7/23-8/3. Fee: \$4. Awards Ceremony: 8/10. Contact: Jeff Boggess. Phone: 304-757-0337, 304-760-0040. Email: brudr@charter.net.
- 10 Oregon State Fair Amateur Beer Competition.** Salem, OR. AHA SCP. Aug 10 2002 - Salem, OR. A statewide competition sponsored by the Oregon State Fair. All BJCP categories of beer, mead and cider will be judged, plus Sake and a clone brews competition. Saturday judging features lunch, a raffle, and a BOS Award. Deadline: 8/2. Fee: \$6. Contact: Dave Wilson. Phone: 503-910-4070. Email: cigar@usaf.org.
- 25 Western Washington Fair Amateur Beer Competition.** Puyallup, WA. AHA SCP. Deadline: 8/17. Fee: \$4. Contact: Western Washington Fair. Phone: 253-841-5017. Email: pat@thefair.com. URL: [www.thefair.com](http://www.thefair.com).
- September**
- 14 5th Annual West Hundred Open.** Richmond, VA. AHA SCP. All Ale with special category: open-all-styles/ no style, best tasting beer. Sponsoring Club: Southside Brewers. Deadline: 9/4-9/13. Fee: \$6 1st, \$5 add. Award Ceremony: 9/14. Contact: Mike Buddle. Phone: 804-272-5410. Email: brewman2@hotmail.com. URL: [www.geocities.com/southsidebrewers](http://www.geocities.com/southsidebrewers).
- 20-21 5th Annual Northern California Homebrewers Festival.** Napa, CA. AHA SCP. The NCHF is a congregation of homebrewers and homebrew clubs from Northern CA and beyond. Homebrewers come to enjoy a 1.5 days of sharing 100's of homebrews, live music, guest speakers and gourmet food. We have a Friday night Brewers Dinner where the 6-course menu is created and paired with some of the best Micro and Homebrewed beers available. Tent Camping is included in the entrance fee! Contact: Mike Winslow. Phone: 650-225-0656. Email: Mksgrist@aol.com. URL: [www.brewfest.org](http://www.brewfest.org) or [www.laquebrada.com/nchf/main.htm](http://www.laquebrada.com/nchf/main.htm).
- 28 Mid South Fair.** Memphis, TN. AHA SCP. 146th Annual Fair. Cash prizes! No Entry Fee! Over 15 prizes of judging homebrew. Sponsored by the Bluff City Brewers. Deadline: 9/1-9/20. Fee: \$0. Awards ceremony: 9/28. Contact: Jim Gosney. Phone: 901-322-1473, 901-756-5298. Email: jgosney@midssouth.rr.com.
- 19 Oktobersbest Zinzinnati,** Cincinnati, OH, AHA SCP. Competition celebrating Cincinnati's rich brewing tradition. AHA sanctioned Sponsoring Club: Cincinnati Malt Infusers. Deadline: 9/30-10/12. Fee: 1st \$6; 2nd-3rd \$4; each add. free. Award Ceremony: 10/19. Contact: Michael Weaver. Phone: 513-984-9337, 513-627-7835. Email: oktobersbest@cinci.rr.com. URL: <http://hbd.org/cmi/>.
- 26 5th Queen of Beer Competition,** Placerville, CA. Open to women only. BJCP sanctioned. Contact: Nora Keller-Seeley. Email: QOB-2002@hotmail.com. URL: [www.HAZEclub.org](http://www.HAZEclub.org).

# Beer Evange-ALE-ist

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BY DANA JOHNSON

# Mission: Possible—The Keg Ran Out Club Takes On Northwestern Light

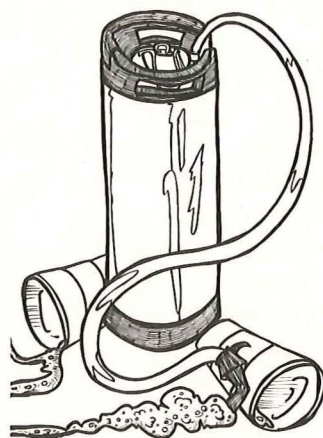
**T**he Keg Ran Out Club (KROC) was formed in Broomfield, Colo., in 1995. We held our meetings at the local (albeit now defunct) homebrew supply shop, The Homebrew Hut, owned by club members John and Beth Irwin. One of those first meetings inspired the name of the club. While we struggled to name our group, the keg of homebrew ran dry in the wee hours of the morning and someone said, "Hey, the keg ran out." KROC was born. Our goal ever since has been to never run out of homebrew.

During the Great American Beer Festival (GABF) in 1995, we held our first World Brewers Forum (WBF). We wanted WBF to be an educational event, complete with two well-known speakers, food, door prizes and a raffle of donated merchandise all to raise money for the club. In addition, there would, of course, be lots of great homebrew to sample. The American Homebrewers Association (AHA) helped sponsor the event and Greg Noonan and Pierre Celis were our guest speakers—not too bad for a new homebrew club. We've maintained the same format since, and this past fall we put on the seventh annual WBF on Thursday night during GABF week.

The KROC "Dirty Half-Dozen" brewers for this experiment were Scott Jackson, current KROC president; John Adams, WBF director; Tim Dallmann, ambassador to the internet; Dana Johnson, past president and cruise director; and two of our newer members, Mark Latham and Nick Skrdlant.

## The Goods

Northwestern Light liquid malt extract is the featured product for this experiment. Northwest Extract Co. of Brookfield, Wis., donated 12 3.3-pound boxes of the extract. It is 80 percent malted barley and 20 percent rice syrup. This malt seemed appropriate for brewing Kolsch, classic



American pilsner, bitters, maibock and pale ales. Here's what we brewed:

### Tim Dallmann's Awl-Most Alt

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

- 6.6 lb (3 kg) Northwest Light malt extract
- 12 oz (340 g) German Munich
- 2 oz (54 g) British chocolate
- 2 oz (54 g) Hallertauer (USA), 3.5% alpha acid (80 min)
- 1 tsp. (5 ml) Irish moss (15 min)
- WYeast German Ale No. 1007
- 1 tsp (5 ml) Poly-Clar (in keg)

- OG 1.048 (12° P)
- FG 1.014 (3.5° P)

#### Brewer's Specifics

Steep the specialty grains at 160° F (72° C) for 30 minutes. Rinse with hot water, then use the "plunge and dunk" method to finish rinsing grains. Boil wort for 90 minutes in seven gallons (26 L) of water; boil down to five gallons (19 L).

Primary fermentation: 68° F. (20° C) for 14 days.

Secondary fermentation: 64° F. (18° C)

for 14 days.

Force carbonate in keg. Age 14 days before sampling

### Tasters' Impressions

Color is a bit dark, but appropriate for style. Beer has a dry finish on the back of the tongue. Great flavor at first, but the aftertaste was very dry and somewhat cidery. Tasty!

### Scott Jackson's Power of the Schwarz

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

- 6.6 lbs (3 kg) Northwestern light malt extract
- 4 oz (113 g) Belgian aromatic
- 4 oz (113 g) Chocolate wheat
- 6 oz (170 g) German black malt
- 6 oz (170 g) Caramunich 75L
- 5 oz (142 g) Northern Brewer hops, 9.9% alpha acid (60 min)
- 2.5 oz (71 g) Hersbrucker hops, 4.9% alpha acid (30 min)
- 1 tsp (5 ml) Irish moss (30 min)
- 2.5 oz (71 g) Hersbrucker hops, 4.9% alpha acid (3 min)
- Wyeast Bavarian Lager No. 2206
- 1 tsp (5 ml) of Polyclar in 1 cup water (during secondary)

- OG: 1.046 (11.5° P)
- FG: 1.009 (2.3° P)

#### Brewer's Specifics

Steep grains in bag in five gallons of water at 135° F (57° C). Raise temperature to 165° F (72° C) then put grain bag in strainer over brew pot and slowly pour one gallon of water over the bag to sparge, bringing the total boil volume to six gallons. Add extract and bring to boil. Total boil time is 90 minutes.

Primary fermentation: 14 days at 60° F (15° C)



Secondary fermentation: 7 days at 40° F (5° C), raise ferment temperature to 60° F (15° C) for a diacetyl rest for two days.

Rack into keg, chill to 34° F (1° C) and force carbonate then lager for 23 days.

#### Tasters' Impressions

The deep, dark color is appropriate for style. Slight malt aroma, very little hop bitterness. Light head, clean flavor. A little astringency at the end and just a touch of detectable cider flavors.

### John Adam's Lighter Shade of Pale Ale

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

- 6.6 lb (3 kg) Northwestern Light malt extract
- 0.5 lb (227 g) flaked barley
- 1.0 oz (28 g) Tettnanger hops, 5.6% alpha acid (60 min)
- 1.0 oz (56 g) Cascade hops, 8.3% alpha acid (15 min)
- 1.0 oz (56 g) Cascade hops, 8.3% alpha acid (dry hop for 14 days) White Labs WLP001 (California Ale Yeast), 1 vial, no starter

- OG: 1.052 (13° P)
- FG: 1.012 (3° P)

#### Brewers Specifics

Steep grains for 30 minutes at 155° F (68° C). Boil wort for 70 minutes.

Primary fermentation: 68° F (20° C) for 14 days in glass

Secondary fermentation: 68° F (20° C) for 14 days in glass

Force carbonate in keg.

#### Taster's Impressions

Attenuated and dry, the beer finishes with a floral, ciderlike character. The residual malty, fruity taste is interesting, but tends to overpower the hops. Perhaps adding more specialty grains would help.

### Mark Latham's Sassy Saison

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

- 6.6 lb (3 kg) Northwestern Light malt extract
- 1 lb (454 g) Belgian Pilsner malt

- 4 oz (113 g) Belgian biscuit
- 4 oz (113 g) Belgian aromatic
- 12 oz (340 g) candy sugar (light)
- 1 oz (28 g) Kent Goldings whole hops, 6.6% alpha acid (60 min)
- 0.5 oz (14 g) Czech Saaz whole hops, 3.4% alpha acid (15 min)
- 0.5 oz (14 g) bitter orange peel (15 min) White Labs WLP565 (Belgian Saison Yeast)

- OG: 1.056 (13.8° P)
- FG: 1.009 (2.3° P)

#### Brewer's Specifics

Mash at 156° F (69° C) for one hour. Boil wort for 60 minutes.

Primary fermentation: 65° F (19° C) 7 days in glass

Secondary fermentation: 65° F (19° C) 14 days in glass

Force carbonate in keg.

#### Tasters' Impressions

Citrus flavor comes through briefly, then fades. Big phenolic aroma up front, a little astringent on the back end. Very dry, a good spring or summer light session-style beer.

### Dana Johnson's Grape Nuts Pilsner

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

- 3.3 lb (1.5 kg) Northwestern light liquid malt extract
- 1.5 lb (681 g) Munton's light dry malt extract
- 1 lb (454 g) German Pilsner malt
- 8 oz (227 g) Post Grape Nuts cereal
- 1 oz (28 g) Cascade pellet hops (60 min)
- 1 oz (28 g) Hallertau pellet hops (30 min)
- 1 oz (28 g) Saaz pellet hops (5 min)
- 6 oz (170 g) dextrose (to prime) White Labs WLP800 (Pilsner Lager Yeast), one vial, no starter

- OG: 1.048 (12° P)
- FG: 1.018 (4.5° P)

#### Brewer's Specifics

Steep grain in one quart 150° F (65° C) water for minutes 30 minutes. In separate pan, steep Grape Nuts in a pint of water over

low heat until soft and then strain liquid into brewpot. Boil wort for 60 minutes total.

Primary fermentation: 4 days at 50° F (10° C) in glass

Secondary fermentation: 10 days at 55° F (13° C) in glass

Lager for 30 days at 40° F (5° C)

#### Tasters' Impressions

Brilliantly clear and the carbonation is good. Smooth and clean, but slightly fruity in the aftertaste. While not overpowering, the aftertaste is probably coming from the rice portion of the extract. Tastes similar to beers made with honey. This beer is very drinkable.

### Nick's R.P.A. (Rye Pale Ale)

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

- 6.6 lb (3 kg) Northwestern light liquid malt extract
- 1.5 lb pale malt (two-row)
- 0.5 lb (227 g) flaked rye
- 0.25 lb (113 g) Honey malt
- 0.5 oz (14 g) Amarillo Gold whole hops, 8.5% alpha acid (60 min)
- 0.5 oz (14 g) Amarillo Gold whole hops, 8.5% alpha acid (45 min)
- 0.5 oz (14 g) Amarillo Gold whole hops, 8.5% alpha acid (30 min)
- 0.5 oz (14 g) Amarillo Gold whole hops, 8.5% alpha acid (2 min)
- 1 tsp (5 ml) Irish moss (15 min) White Labs WLP008 (East Coast/Alt Ale) from starter

- OG: 1.051 (12.8° P)
- FG: 1.014 (3.5° P)

#### Brewer's Specifics

Steep grains at 158° F (70° C) for 60 minutes. Boil wort for 60 minutes.

Primary Fermentation: 14 days at 62° F (17° C) in glass

Secondary Fermentation: 18 days at 62° F (17° C) in glass

#### Tasters' Impressions

The flaked rye gives this beer a nice flavor. Clean and fruity, just a slight amount of chill haze. Smooth, nice head retention and not a lot of hop bitterness. Overall, the taste is very appealing. (continued on page 62)



## OUR READERS

## Toasted Goats?

Yo Professor,

Everything I have read about oatmeal in beer requires a partial- or full-grain mash to break down the starch. The January/February *Zymurgy* included toasted oatmeal in an extract recipe. Have I been missing out on the body and smoothness in my double-browns, porters and stouts or saving myself from the extra gum and gunk?

Thanks,  
Joe Staton  
Fort Bragg, N.C.

Hey Joe,

I'm no expert on using oatmeal, but I'm believing the same thing you're reading about having to mash oatmeal to break down the starches. But toasted oats are another matter. Lightly toasted? Darkly toasted? Medium toasted? If you toast oats you will change the starch structure. It is just like if you toast malt to levels that result in some of the darker roasts, then you don't have to mash because the starch has been "toasted." The starch is no longer an issue and what you are seeking is the toasted flavors from the oats and perhaps some residual amounts of starch that will contribute to "extra gum and gunk," as you put it. But really, in an extract recipe where you are not sparging a full mash it is not an issue. Sure, technically you may carry over a bit of starch into your wort and final brew. For commercial brewers this is not good for stability and appearance reasons, but we're homebrewers and we can get away with a lot more. We can add tremendous taste at the expense of clarity and stability. But, oh yeah, I almost forgot—we're brewing stouts, porters and double-browns—and how long is that stasb gonna last?

Toasted in the dark,  
The Professor, Hb.D.

## Could you? Would you?

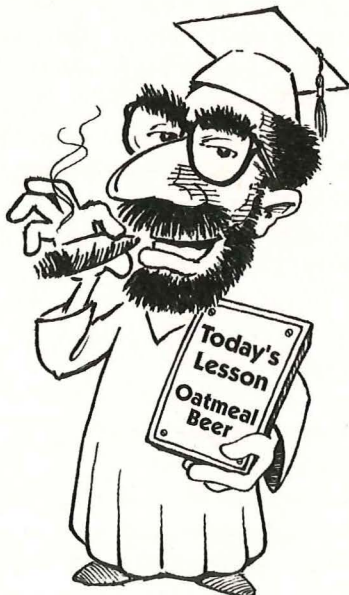
Dear Professor,

I am in OZ and am having trouble finding a recipe (full mash) that resembles Corona or Sol beer. Could you or would you help me? I am also an avid reader of *Zymurgy*. Would you also list the books that you have written because I have never read any—only your articles in magazines. I look forward to hearing from you.

Regards,  
Trevor Jennings

Dear Man from OZ,

You want a recipe for Corona or Sol? Yes, you really must be in OZ. Find any American light lager recipe that has 10 percent to 20 percent corn as an ingredient. Cold ferment with quality liquid "American" lager yeast. Lager at temperatures near freezing for about three weeks. When ready, do not keg your beer—bottle it. Store at room temperature for five to seven days or until carbonat-



ed. Then put the bottles (brown, clear or green, it really doesn't matter) in direct sunlight for an hour or so. Chill, serve, squeeze of lime and enjoy. {Editor's Note: The sun treatment will give you that authentic skunky character found in many imported beers—if you're not in to that, skip the sunbath.}

I've never written any books, but Charlie Papazian has written *The New Complete Joy of Home Brewing*, *The Home Brewers Companion*, *Home Brewers Gold* and edited and compiled *The Best of Zymurgy*. He has also contributed a section on making mead to the book *Brewing Mead* by Lt. Col. Robert Gayre.

You animal you,  
The Professor, Hb.D.

## Imperial IPA?

Dear Professor,

I was at a local bar (Toronado in San Francisco in fact) and my friend was very disappointed when after ordering a pint of IPA off the menu he got a glass of barley wine. Was my friend correct in being disappointed or would it be reasonable for a beer to call itself an IPA, but also be a barley wine? Thanks for help in resolving this dispute.

Jon Bright  
San Francisco Bay Area

Dear Jonathan,

Stylistically, barley wines really should not resemble IPAs. I'd be disappointed. Traditionally, the high-end for IPAs would be about 7.5 percent alcohol. The low end for barley wines would be about 8.4 percent. Sounds like your friend got a not-so-traditional IPA with lots of alcohol. In my opinion that's not very nice when you are looking forward to an IPA.

That said, there seems to be a new style emerging called Imperial IPA. Maybe it



could have been called Double IPA. But nevertheless, these beers are higher-alcohol versions of IPAs and fit the description of what your friend was served. Is it a barley wine? Well, let me put this notion out there for discussion: Before Americans started making barley wines in the early 1980s, most barley wines did not have extraordinary hop intensity. The traditional English barley wines were far less hop-assertive. So, Americans started making barley wines and adding a carload of hops and continued to believe they were making traditional barley wine. I'm proposing that American-style barley wines and Imperial IPAs are one and the same. That being said, it should get the gander of lots of beer chat rooms and brew forums, unless no one reads the Professor any more.

*Does anyone really care? I do.*  
The Professor, HB.D.

### Acermead and No Where To Enter

Dear Professor,

In December of 2000 I decided to try a recipe I found online to make what sounded like interesting mead. I bottled it after a year and a half. After letting it age for six months in bottles, it is ready to serve. I would love to enter it into the National Homebrew Competition. I have one problem though, I cannot figure out what style it would fall into. This may seem odd, but here is what I did. I took six pounds of honey and one gallon of maple syrup to get my sugar. As you can see, I am about 50:50 for my sugar content, but as far as I can tell, this does not fit any of the three styles of mead: mead, fruit mead or herb and spiced mead or braggot (styles 25, 26, 27). To enter this, what should I put it under? If you want the recipe, I can provide that too.

A confused brewer with interesting mead,  
Robert Lewis  
Dotcom, USA

Dear Robert,

*Any relation to Stevenson?*

*Too bad there wasn't a category called experimental mead. I'd call your mead an Acermead; see Papazian's book Home Brewers Companion.*

*Unfortunately, there isn't a legitimate category to enter it into. You might just put*

*it in the herb and spice category and claim that the maple is a seasoning. How it does will depend on how open-minded the judges are. You hope for the luck of the draw on this one. I think it will taste fantastic*

*In Mazers of Mead,  
The Professor, Hb.D.*

*As has become a regular custom of late, The Beer Hunter, Michael Jackson, has passed along some homebrewing questions for answers from the Professor. Here goes:*

### Fraoch Heather and Gyle

Dear Michael Jackson, The Beerhunter,

Would you know where I could find a good recipe for making Fraoch Heather Ale? I am involved in a medieval reenactment group and I'm hoping to include brewing this beer into my persona.

Thank you,  
Christian, Bane and Emerson

Dear C, B and E,

*Michael passed your question on to me. You got lucky because I have the perfect answers for you. In the 1994 Special Issue of Zymurgy, on pages 24 and 25, is not only the whole story on Leann Fraoch Scottish Heather Ale, but also recipe and procedure for five gallons of Heather Ale by Bruce Williams, the man behind the Fraoch Heather. The recipe details the addition of 12.66 cups of heather tips at various stages of brewing and fermentation. Also in the September/October 2000 issue of Zymurgy there is an article called "The Secrets of Heather Ale," also featuring a recipe.*

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*I love answering questions like this,  
The Professor, Hb.D.*

### Clear Thinking on Kit Beer

Dear Michael,

We have just started brewing beer for our own uses. We bought a starter kit that came with everything we needed to make our first batch. It is called American Light

and it came from the company Brewer's Best. We like the taste, but we would like to increase the clarity and alcohol content of the beer. The recipe calls for

- 3.3 lbs plain extra light malt extract
- 1 lb plain light dry malt extract
- 1 lb rice syrup solids
- 1 oz Saaz hops (bittering)
- 1/4 oz Saaz hops (finishing)
- 5 oz priming sugar

The instructions say to boil two gallons of water then add the malt extract. When it comes to a boil again, add the rice syrup solids and the bittering hops and boil for 55 minutes; then add the finishing hops and boil five minutes. Then add three gallons of water and put it into the fermenter and cool the wort until it reaches 70° F (21° C). Take the original gravity reading then ferment for three to seven days between 68-72° F (20-22° C). Measure final gravity, prime with boiled sugar water and bottle. Store bottles at 65-75° F (18-24° C) for two to five weeks.

We considered increasing the amount of malt extracts and hops then straining the beer through cheesecloth before bottling. We just don't know how much to increase the malt extracts and the hops and whether or not just straining the beer with cheesecloth will be enough to improve the clarity. We want an ass-kicking beer, but we don't want to stray too much from the taste that we have now and we would like to get some more of the sediment out of the beer. If you have any suggestions they would be greatly appreciated.

Sincerely,  
Matt and Larry

Dear Matt and Larry,

*My good man Michael J. has forwarded me your homebrew question. I think I can help. You're doing just fine, don't deviate from the instructions too much. They are relatively good instructions. Forget the cheesecloth—I assure you that will result in disaster. You say you want to improve the clarity. What I'm interpreting is that you want to improve the clarity of the pour into your glass. Let the beer sit in the fermenter for an extra three to six days or until the beer gets clearer. Then take care when siphoning and avoid the sediment on the*



bottom of the fermenter. I think you are carrying over too much sediment from the fermenter. A couple of things you could do that may or may not improve the clarity is to go to your homebrew shop and ask for a yeast that throws a firm sediment after fermentation. That will help keep most of the sediment in the bottle when you pour.

You can do better—and will,  
The Professor, Hb.D.

### Doug's Little Experiment

Hi Michael,

I'm trying to find out how breweries made their yeast starters in the days before laboratory technology and professionally cultured pure yeast strains. Will you help? I can tell you what I've done so far on my own. I heard that all plants, fruits and veggies have yeast (naturally) already on them. So, I had some fresh frozen hops from my little crop last year and some sterile wort. To two pints of sterile wort I added about 10 hop cones. The next day I thought I saw some bubbles, so I shook it really good. By the next day I had a very healthy looking and smelling starter. I know I'm risk-

ing it, but I brewed a batch and pitched it. So far it's behaved just like any pure liquid yeast culture I've tried. The beer is not finished yet so I can't say much more about my experiment.

Please let me know what you think about my experiment, and if you could answer my question about how the breweries of old successfully cultivated "useful quality" yeast strains I would be delighted.

Thank you,  
Doug

Dear Doug,

Michael passed on your question to me in hopes that I could shed some light on your little experiment. The answer and essays theorizing on how it was done in the old days could go on for pages. Brewers did not know about yeast. But they knew that the stuff that settled to the bottom or floated to the top had the "energy" to procreate another batch of beer from wort. They used their sense of smell, taste and sight I'm sure to determine what part of the sediment or what part of the floating crop to harvest. After centuries of doing this, procedures were probably common knowledge on

how best and when to harvest material to throw into the next batch. Through the years they developed a combination of many yeast strains that produced the beer they liked. Pure yeast strains? Not likely in those days. Mutations over time? Yes. They did the best they could. They produced excellent beers that changed in time and did not store well, but in those days beers were not being shipped thousands of miles and breweries were small serving small markets.

I'll bet your beer turns out OK. And if you were to keep recycling that yeast many times under sanitary conditions and cool ale fermentations and cooler cellaring, you would isolate yeast strains that begin to produce some consistent flavors. You may not like it. You may like it. And your friends may have different preferences than you. I admire your imagination. You could be a great brewer if you stay with it long enough.

Wondering how it turned out,  
The Professor, Hb.D.

Send your homebrewing questions to "Dear Professor," PO Box 1679, Boulder, CO 80306-1679; FAX (303) 447-2825 or professor@aob.org.

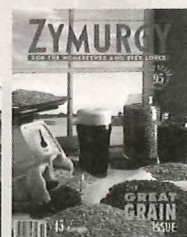
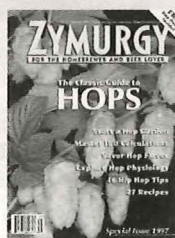
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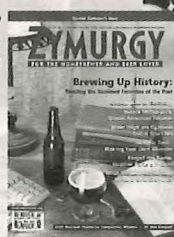


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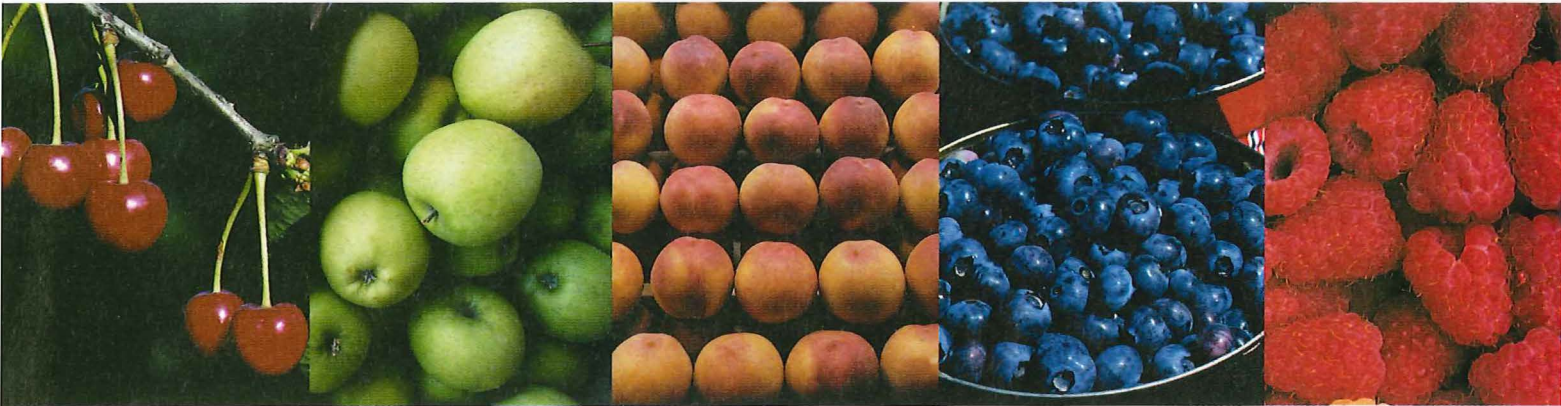
FROM A

# FRUIT BEER

FANCIER

Aesthetics,  
Practicalities and  
Utter Trickery





**H**aving been a fruit beer brewer since 1984, and having made my share of mistakes along the way, I thought I'd share some of my experience to save you some of the painful experimentation that eventually led to my being able to turn out a pretty credible fruit beer whenever I put my hand to it.

We look for character in all well-crafted food and drink. Indeed, it can be one of the great pleasures of being alive. A certain complexity of character, finesse of balance, layering of sensations so one blends into another, and another as the taste goes on and on, *that's* what we seeking with fruit beers.

Compared with regular just-malt-and-hops beers, fruit beers really are completely different animals. You need good basic brewing and recipe formulation skills of course, but brewing fruit beers takes you to a new world in just about every aspect of brewing.

No single ingredient or technique is responsible; it's a matter of the whole being greater than the sum of the parts. The topics below all contribute in one way or another. It's your highest calling as a brewer to be aware of this issue and seek profundity at all times, even in the lightest, most casually concocted beverages. But every brewer must find his or her own way; this really is where the artistry in brewing lies. I've tried to present the things I believe are important, and why, as well as some of the more practical aspects of dealing with this seductive, but elusive, little piece of the brewing universe.

## The Beer Base

Not every fruit goes with every beer. Color, or rather degree of roastiness, strength and bitterness are the main qualities that will either blend or clash with your chosen fruit.

First, match strength with strength. Either a high starting gravity or lots of dark grains will produce a strongly flavored beer. These need to be balanced by lots of fruit flavor, either with strongly flavored fruit such as raspberries, or by a great load of a more delicate fruit such as cherries.

Think about fruit beers as desserts and roast grain as the chocolate, from lighter mocha to deep bittersweet. Which fruits go well with chocolate? Raspberries, cherries, raisins, sometimes oranges and even strawberries do. Which don't? Peaches, apples,

Munich malt), and adjust color with a European, debittered black malt. Personally, I find the roastiness of chocolate malt too harsh for fruit beers, but you may not agree.

However constructed, dark beers require up to three times as much fruit as pale ones. This, in turn, requires longer aging, but a well-made imperial cherry stout can definitely be worth the wait.

Highly hopped beers are generally not such great fruit beer bases. The bitterness, nice as it is, seems to overwhelm most fruit flavors. An exception might be made when the fruit flavors blend and extend the hop character—grapefruit or bitter orange, for example.

Obviously, the lighter beers, such as weissbier, wit and pale lager, can work with the more delicate fruit flavors, and generally require less fruit. A pound per gallon is a good starting rate for sour cherries, about half that will get you to the same place with raspberries.

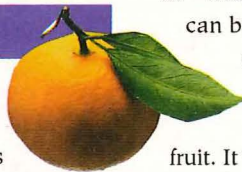
Aside from their traditional association with fruit, Belgian-style sour beers are a most wonderful base for fruit beers and aren't that difficult to make if you have a little—well, sometimes a lot—of patience. You

can brew a sour brown with a Munich dunkel or bock recipe, then, after the primary fermentation, add a mixed lambic starter with the fruit. It will take a few months to develop the characteristic sour, aromatically complex profile, but long contact time with the fruit is generally desirable. Authentic lambic-style beer can be devilishly complex to brew, but a pale wheat-laden beer, treated in the manner described above, can be more than passably delicious as a fruit beer base. With all these long-aged beers, you may need to repitch with a normal ale yeast at bottling for carbonation.

## By Randy Mosher

blueberries typically don't. It's the same with beer. Amber beers with lots of crystal and mid-color malts can be likened to caramel in a dessert. Now the apples and peaches really shine, and cherries fit in pretty well, too.

Analogies can only go so far, and the roasty flavors of really dark beers can get pretty harsh and dry. When I'm formulating dark beers for fruit, I prefer to get a lot of my color from a medium-color malt such as Munich or "aromatic" (a darker sort of







## Ripeness

The enchantingly lush aromas of truly ripe fruit are essential to creating richly fruity beers. Supermarket fresh fruit, picked while still hard and green, lacks these qualities, and so is a poor choice for flavoring a brew. Farmers markets and pick-your-own farms are the places to go for quality fruit. Frozen fruit is another pretty good choice, although you will be limited to the more mainstream cultivars.

**A certain complexity of character, finesse of balance, layering of sensations so one blends into another, and another as the taste goes on and on, that's what we seek with fruit beers.**



Ripeness is more of a problem with some fruits than others. Strawberries don't ripen further once picked. Peaches seem to be especially problematic because it is difficult to find them in a ripe and aromatic form. Add to that the difficulty of retaining character through fermentation—peach flavor not only fades fast, it seems to change into something less "peachy" as well. Raspberries always seem to be full of sunny fruit, but blueberries devolve into something dull and dim no matter how ripe.

Once you have the perfect ripe fruit in hand, the task turns to getting the best of that luscious flavor into your beer. My favorite technique is to freeze the fruit, which also gives me the convenience of brewing whenever I feel like it. More importantly, it breaks down the cell walls, allowing the fruity essences to ooze out into the fermenting brew. Additionally, freezing will reduce the bacterial and wild yeast load somewhat, making it less apt to start some unwanted runaway infection in your beer.

Once defrosted to room temperature, the fruit is added to the secondary fermenter. I use a 6.5 gallon carboy for this, which, when

## Fruit Selection

A peach is not just a peach. For just a few weeks a year in Chicago we have access to a peach variety called 'Red Haven,' grown just across the lake in Southwest Michigan. This juicy, succulent fruit drips peachiness all the way down your chin, eclipsing all other available varieties. But it's only ripe for a short time, and is too delicate to stand up to the brutality of the grocery distribution system.

Most kinds of fruit are available in such select or heirloom varieties, which offer superior taste, aroma and texture. They simply can't withstand the harsh handling of the modern grocery world, and so get relegated to a kind of boutique status. These are well worth seeking out. There's even a club dedicated to cultivating antique varieties, the Fruit Explorers (see [www.nafex.org](http://www.nafex.org)).

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filled with 5.5 gallons of beer and several pounds of fruit, usually brings the level just about up to the narrow part of the neck. Keep a good eye on this. Carboys have been known to explode when a fruit chunk clogs the bunghole and pressure builds. If you see a lot of lively action, you might want to use a large-diameter blow-off hose until things quiet down.

## Complexity

It is rare that a single source of fruit will have all of the depth you desire. When it does occur, in wine, for example, such vineyards are held in reverential esteem, and their products are valuable rarities.

Although it's possible to find the perfect cherry orchard or raspberry patch, it is more likely that you will not. I have found that by blending two or more varieties, or even different fruits altogether—peaches with apricots, for example—you can create a more profound flavor in your beer.

Whole fruit also lends complexity. Cherries and raspberries exude some pleasant flavors from their pits and seeds. In small fruits, skin has flavor that's missing from the juice, so again, opt for whole fruit when possible.

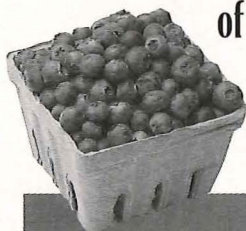
## Balance

In normal beers, the hop/malt balance reigns unchallenged. In fruit beers, however, the picture is more complex because fruit character and acidity are added to the mix. Fruit will taste very flat without a little acidity, in wine terms, flabby. Some fruit has enough acidity on its own—sour cherries, for example—while others need a little help. The degree of ripeness is key here.

Winemakers go nuts trying to decide when to harvest for the best of both fruit and acid. Happily, this is something easily corrected at the very end of the process by simply adding one of the acids used by amateur winemakers to correct their blends: citric, tartaric or malic. Citric is the sharpest; malic is softer. Blends of all three are available.

Bitterness cuts sweetness, and though we're usually not dealing with truly sweet beers, fruitiness is usually read as a kind of sweetness. Too much hop bitterness cuts down on the perception of fruitiness and numbs the palate to the subtleties we're working so hard to obtain.

Most kinds of fruit are available in such select or heirloom varieties, which offer superior taste, aroma and texture. They simply can't withstand the harsh handling of the modern grocery world, and so get relegated to a kind of boutique status.



## Quantity

The big reason for the deep mediocrity of brewpub fruit beers is mainly a result of too little fruit. It's easy to see why. Fruit is expensive and messy, and in brewery-size quantities it's prohibitively so. But there should be no such problem for us homebrewers. What's another five bucks? I think a pound per gallon of a milder fruit such as cherries or peaches is an absolute minimum, half that for stronger flavored fruits such as raspberries. Up to three pounds per gallon or more is not necessarily too much, but generally the quantity of the fruit should match the beer's flavor intensity.

## Appearance

Like it or not, it's a fact that flavor perception is affected by what the eyes lead one to expect. So, given two identical-tasting beers of different tints, the more colorful one is likely to taste fruitier. I wouldn't advocate food coloring, but a splash of frozen or bottled fruit juice, or using some deeply colored, but less aromatic fruit—black cherries, for example—will do the job beautifully, and sometimes add an extra dab of depth. The aseptically packed boxes of fruit juice, especially cassis, work really well for adding color and a touch of complexity. *(continued on page 59)*

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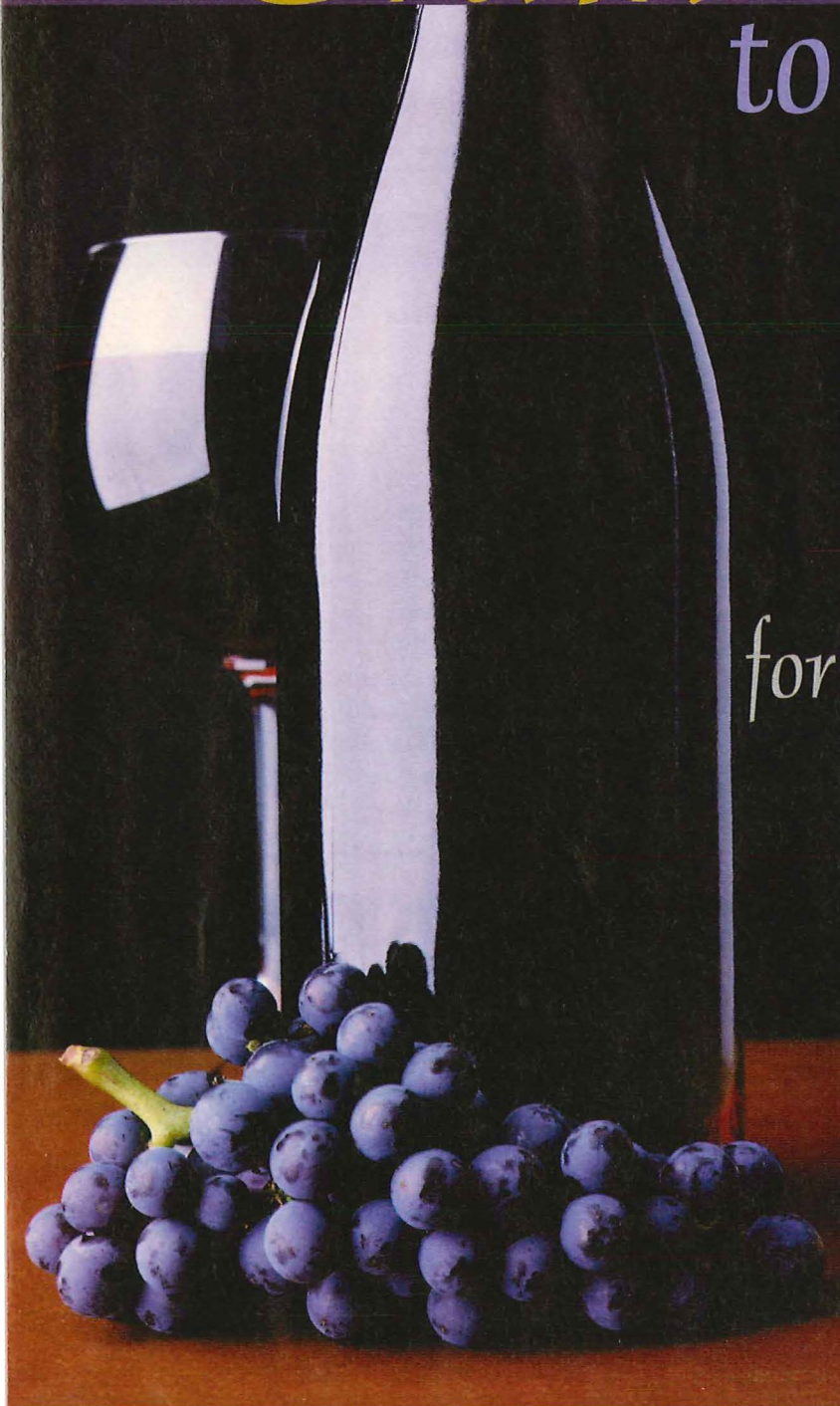
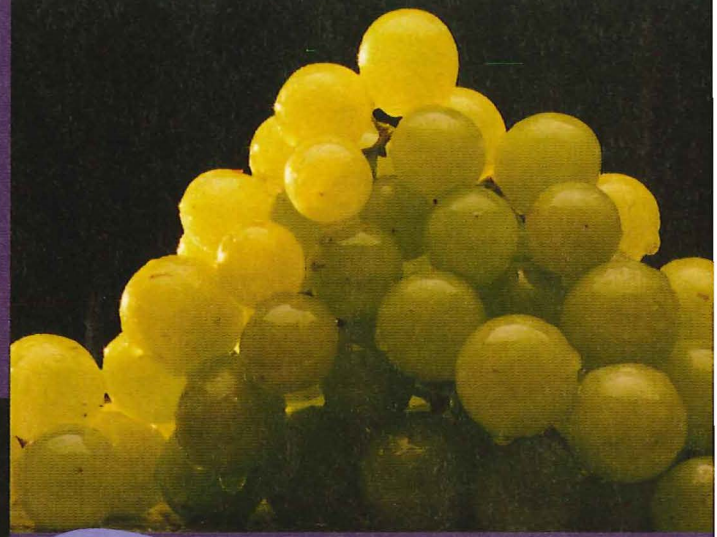
from  
Grain

to

Grapes

Winemaking  
for Brewers

By Alan Moen





**A**lthough winemaking has long been my passion, I started brewing beer first. Both activities had their intimidating mystique, but beer seemed more approachable. It had none of that aristocratic aura of fancy labels, expensive bottles, exotic vineyard sites, vintage ratings and mysterious barrel and bottle aging. Living in the Pacific Northwest, I had seen the birth of a young industry that strove to produce wines equal to Europe's best. But good beer was simply not available; if you wanted it, you had to make your own. I did, and soon progressed from extract to mashing, liquid yeast and fresh hops.

Meanwhile, I got into winemaking while working at a homebrew shop that bought grapes from a Yakima vineyard every year. Later, I joined an amateur winemakers' group in Seattle that did the same thing on a larger scale. Just as using good ingredients made an incredible difference in my brewing, using fresh, high-quality wine grapes helped me take my winemaking to a new level.

Looking for a way to support my artist habit, I later found a job at a local winery working in its barrel cellar. But my brewing didn't stop when winemaking became my profession. As the saying goes, it takes a lot of beer to make good wine (and maybe vice versa). After sometimes tasting from 50 barrels a day, I found that a good pint of ale was a refreshing change for my exhausted palate. Making beer actually helped me focus on my real job, making wine. I still see no reason why winemaking can't do the same for brewers, commercial or otherwise.

### **Wine vs. Beer**

Wine and beer are both products of the natural fermentation of cultivated plants. As such, they share some obvious characteristics. Both contain ethanol and many aromas and esters from the fermentation process. Both are normally fermented at temperatures between 50 and 70° F (10 and 21° C), although fermentation temperatures as high as 90° F (33° C) are not uncommon with some wines. Both suffer the negative effects of oxidation, sunlight and heat.

Wine does have some crucial differences. Because it is the product of fruit, unlike near-

ly all beer, wine has more natural fruit aroma and acidity. It also has more alcohol. So-called table wine is normally 11 percent to 13 percent alcohol (v/v), more than double that of average beers. Even the famous Beere-nauslesen of Germany, nectar-sweet dessert wines made from white Riesling grapes, have 8 percent or 9 percent alcohol (v/v)—equal to barley wines or imperial stouts.

As with the strongest beers, nearly all wine benefits from aging. Although it is a relatively rare brew that ages well beyond a month or two, it takes a year for most wines to fully develop. Some may take a decade or more. Still, the majority of the world's wines are consumed within two years of production. For the average brewer who wants to make something to drink in a few weeks, winemaking might be like watching snow melt or fruit ripen. The wait, however, is definitely worth it.

### **Quality: What Goes In, Comes Out**

As in brewing, wine quality depends on ingredients. The key to good wine is simple: good fruit. It might take a fairly advanced brewer to appreciate the difference between Maris Otter and Golden Promise malt, but even beginning winemakers will discover that fruit quality can make an incredible difference. There are many tricks of the trade in winemaking, but no winemaker worth his or her cabernet would pretend that fruit quality is not the absolute bottom line. I can't emphasize this enough: Nobody makes great wine from average ingredients. Even though wine kits have improved considerably since my homebrew shop days—and may be a good way to get started quickly—they are still a far cry from fresh fruit. In my experience, even frozen fruit is preferable to most kits.

All in all, it's hard to beat real wine grapes (*Vitis vinifera*) for making wine. They are probably the most perfectly fermentable fruits on earth. These grapes have a combination of skin flavor and tannins, a natural sugar concentration in the juice and an acidity that guarantees a wine of significant alcohol content and low pH, two factors that contribute to long shelf life and complex flavor. If you can get them, starting with good wine grapes will make your winemaking more rewarding.

After you find good fruit, actually making the wine is not an intimidating task. The

process is simple compared with brewing, and in a sense a good winemaker needs to learn to let the wine make itself—with a little help now and then. If you are prepared to monitor your wine for some months, there's no reason why you can't make stuff that's superior to much of the overprocessed, overfiltered *vin ordinaire* in the marketplace today.

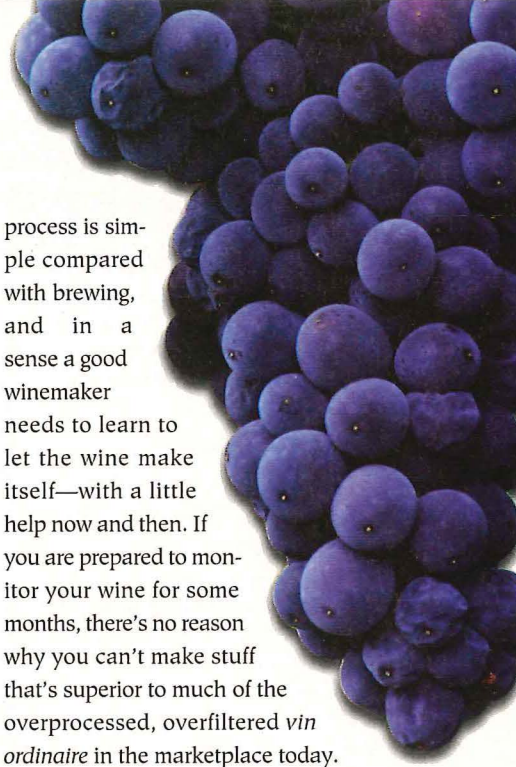
### **Getting Started**

Much of your brewing equipment can do double duty for winemaking. You'll need a fermenting vessel made of food-grade plastic, glass or stainless steel. Other tools of the trade include a hydrometer and testing jar, a large spoon or paddle for stirring, at least two five-gallon carboys with fermentation locks, a racking wand and a plastic siphon hose.

In addition to these items, winemaking requires a few extra tools. An acid-testing kit is useful, as is a reliable means of measuring pH (papers will do, but you need ones with a lower range for winemaking than for brewing). I recommend a large plastic funnel and nylon strainer bag, too.

Of course, if you're thinking about oak aging, you'll need a barrel or some oak shavings. Obviously, you'll also need corks and bottles to package your product. (This might not really be necessary for all wines; I make a Nouveau Beaujolais-style wine every year and put it into Cornelius kegs to drink while barely a month or two old.)

You'll also use your sanitation equipment when making wine. Wine is more resistant than beer to bacterial infection, but sanitation practices are still important, particularly after fermentation's protective CO<sub>2</sub> production ceases. You should rinse all equipment with a sulfite or iodine solution and allow it to dry. Fill airlocks with a sul-

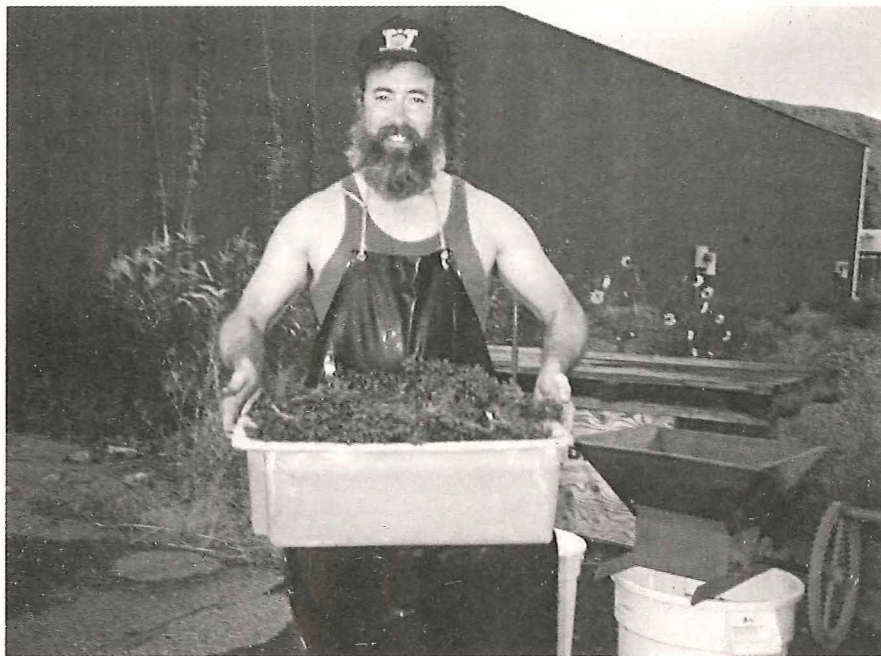




## Getting Ready: The Winemaker's Shopping List

**Many basic brewing supplies can be used for winemaking, with a few exceptions. Many homebrew supply stores also carry winemaking equipment. Here's what you'll need:**

- A large stainless steel spoon
- A hydrometer (saccharometer) and testing jar
- A means of testing pH (test strips may suffice)
- An acid-testing kit
- A six- to 10-gallon wide-mouth container for fermentation, made from food-grade plastic or stainless steel (1/4-bbl kegs are fine), preferably with a good lid
- Campden (sodium metabisulfite) tablets or potassium metabisulfite in powder form
- A nylon strainer bag with a fine mesh
- A large carboy funnel
- Two five-gallon carboys
- Six feet of plastic siphon hose with a clamp
- A racking wand or cane
- Two airlocks and drilled No. 6 1/2 or No. 7 stoppers
- Two or more glass gallon jugs with lids or stoppers
- A good instant-read steel thermometer
- A corker and clean new wine corks
- Wine bottle labels
- A carboy brush and bottle brush
- Sanitizing supplies



**The author with home-grown wine grapes ready for crushing.**

fite solution and clean them frequently. Clean up any spilled wine immediately. Replace plastic hoses yearly. (See sidebar on this page for an equipment list.)

### A Word About Sulfur

Normally the only chemical added to wine is sulfur dioxide (SO<sub>2</sub>). Winemaking shops usually carry sodium or potassium metabisulfite in the form of Campden tablets (one tablet equals about 50 ppm SO<sub>2</sub> in one

gallon of wine). A potent antioxidant, SO<sub>2</sub> has proven itself through the centuries as an agent for preserving freshness and inhibiting acetic acid- or vinegar-producing bacteria. That said, many home winemakers typically overuse SO<sub>2</sub>. You only need to add minute amounts of SO<sub>2</sub> to wine (generally 50 ppm total for reds, 100 ppm for whites are acceptable). SO<sub>2</sub> completely kills a wine's aroma and is quite harmful in larger amounts; it can cause serious respiratory side effects for wine drinkers. I believe many commercial wineries today use far too much SO<sub>2</sub> to achieve shelf stability. Some winemakers now avoid sulfur altogether, even for rinsing equipment, and their numbers are increasing. In my experience, however, SO<sub>2</sub> is still an essential ingredient in winemaking.

### The Winemaking Process

Briefly, wine is made in four stages: crushing or preparing the must, fermenting, maturing (including racking) and bottling. Each step has its own basic techniques, most of which have stood the test of time, and time, in a sense, is what winemaking is all about.

The first step is crushing. The juice of fruits, which contain water, acids and simple sugars, must be allowed to interact with yeast in order to ferment. This means crushing or pressing the fruit to separate its juice from the skins or pulp. Since the skins typ-

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**Loading grapes into the crusher.**

ically contain many flavor compounds and pigments, winemakers often do not separate them from the crushed fruit until after fermentation is complete. Red or black grapes, for example, have pale or pink juice when crushed. In order to make red wines, the crushed fruit, which is called the must, is left on the skins during fermentation, thereby extracting more flavor, color and tannins. The opposite is true for white wines. In order to avoid excessive color, tannins and so-called skin taste, winemakers usually press the fruit immediately after crushing and ferment the juice alone.

Fruit with pits, such as cherries, should be destoned before crushing. With grapes, stems should be removed—a commercial stemmer/crusher is ideal for this. It is best not to totally pulverize the fruit because this may add too much tannin to the must.

### **Determining Original Gravity**

After you crush the grapes by whatever means (two-by-four, wooden paddle, feet), you should take a hydrometer reading to determine the must's original gravity. Most fruits will produce a natural specific gravity between 1.036 and 1.060—that's 9 to 15° Brix in winespeak. This would be fine for making beer or cider, but not for wine, which should

have an original gravity between 1.090 and 1.100 or 21 and 23 °Brix for table wines [10 percent to 13 percent alcohol (v/v).] You can add sugar (dextrose, cane or corn) to adjust the must by dissolving it first in boiling water and then pouring it over the fruit. For a five-gallon batch of most fruit wines, expect to add seven to 10 pounds of sugar. Brewers should note that this procedure does not

take an additional week or two, especially for malolactic fermentation.)

### **Months 2-4**

- Rack wine without aeration every three to four weeks
- Add sulfite at second racking—the first racking after normal and malolactic fermentation are complete. Because sulfite will inhibit malolactic fermentation, it should not be added until the fermentation is finished.

### **Months 4-6**

Bottle (depending on variety and if barrel or oak aging)

### **Months 6-12**

Allow to mature in bottle, inverted or on side, for six to 12 months

### **Day 1**

- Crush fruit in fermenter or add juice to fermenter
- Add hot sugar solution as needed
- Add sulfite

### **Day 2**

- Test acidity
- Adjust gravity as needed
- Add yeast

### **Days 3-13**

- Primary fermentation (3-10 days)
- For fruit on skin, punch pulp down twice daily

### **Week 2**

- Strain must, rack into secondary fermenter
- Wait until fermentation has definitely subsided, rerack with aeration (Complete fermentation may



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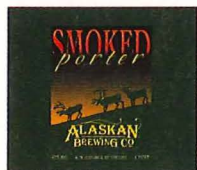
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- Category 2 Non-Alcoholic (Beer) Malt Beverage 14 Entries**  
**Gold** O'Douls Amber, Anheuser-Busch Inc. (Corp), St Louis, MO  
**Silver** Radegast Birell, Radegast Brewery JSC, Nosovice, Czech Republic  
**Bronze** Genesee Non-Alcoholic, High Falls Brewing Company, Rochester, NY
- Category: 3 American Lager/Ale or Cream Ale 13 Entries**  
**Gold** Genesee Cream Ale, High Falls Brewing Company, Rochester, NY  
**Silver** All American Cream Ale, Holy Cow! Casino, Cafe & Brewery, Las Vegas, NV  
**Bronze** Cameron's Lager, Cameron's Brewing Company, Toronto, Canada
- Category: 4 American-Style Wheat Ale or Lager 21 Entries**  
**Gold** Leinenkugel's Honey Weiss, Jacob Leinenkugel Brewing, Chippewa Falls, WI  
**Silver** Hefeweizen, Pyramid Ales and Lagers, Seattle, WA  
**Bronze** Shiner Hefeweizen, The Spoetzl Brewery, Inc., San Antonio, TX
- Category: 5 American-Style Rye Ale or Lager 11 Entries**  
**Silver** Worryin' Ale, Piece Brewery, Chicago, IL  
**Bronze** Tuck's Rye PA, Il Vicino Wood Oven Pizza & Brewery, Colorado Springs, CO
- Category: 7 Fruit Beer 21 Entries**  
**Gold** Melbourn Bros. Strawberry, Melbourn Brothers Brewing, Stamford, England  
**Silver** Melbourn Bros. Apricot, Melbourn Brothers Brewing, Stamford, England  
**Bronze** Quelque Chose, Unibroue Inc., Chambly, Canada
- Category: 8 Chocolate/Cocoa Flavored Beer 8 Entries**  
**Gold** Death By Chocolate Stout, Great Basin Brewing Company, Sparks, NV  
**Silver** Chocolate Stout, Bison Brewing Company, Berkeley, CA  
**Bronze** Darth Delirium, Moose's Tooth Brewing, Anchorage, AK
- Category: 9 Herb and Spice Beer 14 Entries**  
**Gold** Cerveza de Santa Rosa, Third Street Ale Works, Santa Rosa, CA  
**Silver** Hoppy Holiday, Marin Brewing Company, Larkspur, CA  
**Bronze** Original Vanilla Porter, Stoney Creek Brewing Company, Detroit, MI
- Category: 10 Specialty Beer 9 Entries**  
**Gold** Big Bear Black, Bear Republic Brewing Company, Healdsburg, CA  
**Silver** Deus, Brewery Boosteels, Bougen Hout, Belgium  
**Bronze** Pullman Brown Ale, Flossmoor Station, Flossmoor, IL
- Category: 11 Specialty Honey Lager or Ale 13 Entries**  
**Gold** Shiner Hefeweizen, The Spoetzl Brewery, Inc., San Antonio, TX  
**Silver** Oak Brackett, White Winter Winery, Inc., Iron River, WI  
**Bronze** BumbleBeer Honey Ale, Rock Bottom - La Jolla, La Jolla, CA
- Category: 12 Experimental Beer 12 Entries**  
**Gold** Samuel Adams Utopias, Boston Beer Company, Boston, MA  
**Silver** Blackfin Bourbon Cask, P.H. Woods Brewery, Moreno Valley, CA  
**Bronze** Red Hibiscus, Bison Brewing Company, Berkeley, CA
- Category: 13 Smoke-Flavored Beer 10 Entries**  
**Gold** Smoke, Rogue Ales, Newport, OR  
**Silver** Alaskan Smoked Porter, Alaskan Brewing Company, Juneau, AK  
**Bronze** Rauchbier, Echigo Beer Company Ltd., Nishikanbaragun, Japan
- Category: 14 European-Style Low-Alcohol 5 Entries**  
**Gold** Bohemian Light, America's Brewing Company, Aurora, IL  
**Silver** Beck's Light, Brauerei Beck & Company, Bremen, Germany  
**Bronze** Wójak 8.9 Plato, Browar Belgia Sp z o.o., Kielce, Poland
- Category: 15 German-Style Pilsener 42 Entries**  
**Gold** Distelhauser Premium Pils, Distelhäuser Brauerei Ernst Bauer GmbH & Company KG, TBB, Distelhausen, Germany  
**Silver** König Pilsener, König Brauerei, Duisburg, Germany  
**Bronze** Kasseler Premium Pils, Einbecker-Brauhaus AG, Einbeck, Germany
- Category: 16 Bohemian-Style Pilsener 25 Entries**  
**Gold** Radegast Original, Radegast Brewery JSC, Nosovice, Czech Republic  
**Silver** Radegast Premium, Radegast Brewery JSC, Nosovice, Czech Republic  
**Bronze** Hometown Blonde, New Glarus Brewing, New Glarus, WI
- Category: 17 Müncher-Style Helles 27 Entries**  
**Gold** Neuschwansteiner, Hirschbräu Brauerei, Sonthofen, Germany  
**Silver** Shiner Summer Stock, The Spoetzl Brewery, Inc., San Antonio, TX  
**Bronze** Kitzmann Urhell, Kitzmann - Brau KG, Erlangen, Germany
- Category: 18 European-Style Pilsener 29 Entries**  
**Gold** Cisk Export Premium Lager, Simonds Farsons Cisk Plc, Mriehel, Malta  
**Silver** Stella Artois, Interbrew, Leuven, Belgium  
**Bronze** Wójak 14.1 Plato, Browar Belgia Sp z o.o., Kielce, Poland
- Category: 19 Dortmund-Style European-Style Export 17 Entries**  
**Gold** Hoefpner Goldkoepl, Privatbrauerei Hoefpner, Karlsruhe, Germany  
**Silver** Schlappeseppl Export, Eder & Heylands Brauerei, Großostheim, Germany  
**Bronze** Hollendomer Florian, Brauerei Schmidmayer, Siegenburg, Germany

- Category: 20 Vienna-Style Lager 17 Entries**  
**Gold** Leinenkugel's Red Lager, Jacob Leinenkugel Brewing Company, Chippewa Falls, WI  
**Silver** Ormerly Amber Lager, Tommyknocker Brewery, Idaho Springs, CO  
**Bronze** Gordon Biersch Vienna, Gordon Biersch Brewery Restaurant Group Inc, Chattanooga, TN
- Category: 21 German-Style Märzen/Okttoberfest 17 Entries**  
**Gold** Beck's Oktoberfest, Brauerei Beck & Company, Bremen, Germany  
**Silver** Oktoberfest, Boston Beer Company, Boston, MA  
**Bronze** Svytyurs Baltijos, Svytyurs Utenos Alus, Vilnius, Lithuania
- Category: 22 European-Style Dark/Müncher Dunkel 23 Entries**  
**Gold** Winter Brew, Sprecher Brewing Company, Glendale, WI  
**Silver** Emmett's Dunkel, Emmett's Tavern and Brewing Company, West Dundee, IL  
**Bronze** Slam Dunkel, Great Basin Brewing Company, Sparks, NV
- Category: 23 German-Style Schwarzbier 19 Entries**  
**Gold** Black Hole Lager, Honolulu Brewing Company, LLC, Honolulu, HI  
**Silver** Wippraer Schwarzbier, Museums-Brauerei Wippra/Harz, Bad Kösen, Germany  
**Bronze** Black Bier, Red Rock Brewing, Salt Lake City, UT
- Category: 24 Traditional German-Style Bock 14 Entries**  
**Gold** Oderbolz Bock, Pioneer Brewing Company, Black River Falls, WI  
**Silver** Get Off My Bock, Blue Corn Café and Brewery, Albuquerque, NM  
**Bronze** Framingham Bock, John Harvard's Brew House, LLC, Framingham, MA
- Category: 25 German-Style Helles Bock/Maibock 10 Entries**  
**Gold** Capital Mai Bock, Capital Brewing Company, Inc., Middleton, WI  
**Silver** Hell's Bock, Big Horn Brewing Company, Fort Collins, CO  
**Bronze** PRIMATOR 16 Exklusiv Lager, Pivovar Nachod A.S., Nachod, Czech Republic
- Category: 26 German-Style Strong Bock Beer 22 Entries**  
**Gold** Liberator Doppelbock, Angelic Brewing Company, Madison, WI  
**Silver** Ganter Wodan, Brauerei Ganter, Freiburg, Germany  
**Bronze** Doppelhirsch, Hirschbräu Brauerei, Sonthofen, Germany
- Category: 27 American-Style Light Lager 8 Entries**  
**Gold** Miller Lite, Miller Brewing Company, Milwaukee, WI  
**Silver** Brewhouse Light, Great Western Brewery, Ltd., Saskatoon, Canada  
**Bronze** Western Premium Light, Great Western Brewery, Ltd., Saskatoon, Canada
- Category: 28 American-Style Lager 18 Entries**  
**Gold** Miller High Life, Miller Brewing Company, Milwaukee, WI  
**Silver** Canadian, Molson Canada, Etobicoke, Canada  
**Bronze** Stegmaier Gold Medal, The Lion Brewery Inc., Wilkes-Barre, PA
- Category: 29 American-Style Premium Lager 14 Entries**  
**Gold** Original Coors, Coors Brewing Company, Golden, CO  
**Silver** Henry Weinhard's Private, Miller Brewing Company, Milwaukee, WI  
**Bronze** Mooshead Lager, Mooshead Breweries, Ltd., St. John, Canada
- Category: 30 American-Style Specialty Lager 9 Entries**  
**Gold** Molson Dry, Molson Canada, Etobicoke, Canada  
**Silver** Ice House, Miller Brewing Company, Milwaukee, WI  
**Bronze** Olde English HG800, Miller Brewing Company, Milwaukee, WI
- Category: 31 American-Style Amber Lager 15 Entries**  
**Gold** Henry Weinhard's Northwest Trail, Miller Brewing Company, Milwaukee, WI  
**Silver** Point Amber Lager, Stevens Point Brewing Company, Stevens Point, WI  
**Bronze** Red Dragon Lager, Blue Corn Café and Brewery, Albuquerque, NM
- Category: 32 American Dark Lager 7 Entries**  
**Gold** Leinenkugel's Creamy Dark, Jacob Leinenkugel Brewing, Chippewa Falls, WI  
**Silver** Henry Weinhard's Dark Lager, Miller Brewing Company, Milwaukee, WI  
**Bronze** Zolotaya Bochka O Sobaya Seriya, LLC Transmark, Moscow, Russia
- Category: 33 Australasian or Tropical-Style Light Lager 7 Entries**  
**Gold** Southern Cross Export, Honolulu Brewing Company, LLC., Honolulu, HI  
**Silver** Premium, Cia. Cervecería de Nicaragua, Managua, Nicaragua  
**Bronze** Double Happiness Beer, Guangzhou Brewery, Guangzhou, China
- Category: 34 Belgian-Style White (or Wit)/Belgian-Style Wheat 12 Entries**  
**Gold** Hoegaarden, Interbrew, Hoegaarden, Belgium  
**Silver** Blanche De Chambly, Unibroue Inc., Chambly, Canada  
**Bronze** Allagash White, Allagash Brewing Company, Portland, ME
- Category: 35 Belgian-Style Lambic 6 Entries**  
**Bronze** Lindemans Cuvee Rene, Brouwerij Lindemans, Vlezebeek, Belgium
- Category: 37 Belgian-Style Pale Ale 6 Entries**  
**Gold** Monk's Lament Belgian Abbey, Angelic Brewing Company, Madison, WI  
**Bronze** Dremmel Blonde, Brasserie Artisanale Du Tregor, Treguier, France





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- Category: 38 Belgian-Style Pale Strong Ale 10 Entries**  
*Gold* La Fin Du Monde, Unibroue Inc., Chambly, Canada  
*Silver* Stumblin' Monk, Stewart's Brewing Company, Bear, DE  
*Bronze* Trident Tripel, Angelic Brewing Company, Madison, WI
- Category: 39 Belgian-Style Dark Strong Ale 9 Entries**  
*Gold* Trois Pistoles, Unibroue Inc., Chambly, Canada  
*Silver* Salvation, Russian River Brewing Company, Guerneville, CA  
*Bronze* Milenia, Especialidades Cerveceras, S.A. C.V., Monterrey, Mexico
- Category: 40 Belgian-Style Dubbel 6 Entries**  
*Gold* Abbey Belgian Style Ale, New Belgium Brewing Company, Fort Collins, CO  
*Silver* Maudite, Unibroue Inc., Chambly, Canada  
*Bronze* Devil's Dubbel, Angelic Brewing Company, Madison, WI
- Category: 41 Belgian-Style Tripel 12 Entries**  
*Gold* Gouden Carolus Tripel, Het Anker N.V., Mechelen, Belgium  
*Silver* Tripel Karmeliet, Brewery Bosteels, Bougen Hout, Belgium  
*Bronze* Black Tulip Tripel, New Holland Brewing Company, Holland, MI
- Category: 42 Other Belgian-Style Ale 4 Entries**  
*Silver* Pauwel Kwak, Brewery Bosteels, Bougen Hout, Belgium  
*Bronze* Leffe Blonde, Interbrew, Leuven, Belgium
- Category: 44 French-Belgian Style Saison 6 Entries**  
*Gold* Artisan Saison, Rocky River Brewing Company - Ohio, Rocky River, OH  
*Bronze* Saison de Brooklyn, Brooklyn Brewery, Brooklyn, NY
- Category: 45 Classic English-Style Pale Ale 18 Entries**  
*Gold* Annadel Pale Ale, Third Street Ale Works, Santa Rosa, CA  
*Silver* Pitchfork Pale Ale, Jarre Creek Ranch Brewery, Castle Rock, CO  
*Bronze* Urban Wilderness, Sleeping Lady Brewing Company, Anchorage, AK
- Category: 46 English-Style India Pale Ale 12 Entries**  
*Gold* English IPA, SLO Brewing Company, San Luis Obispo, CA  
*Silver* St. George IPA, St. George Brewing Company, Hampton, VA  
*Bronze* English Style India Pale Ale, Manayunk Brewing Company, Philadelphia, PA
- Category: 47 Ordinary Bitter 7 Entries**  
*Gold* Cutthroat Ale, Unta Brewing Company, Salt Lake City, UT  
*Silver* Singletack Copper Ale, Rockies Brewing Company, Boulder, CO  
*Bronze* 8th Street Ale, Four Peaks Brewing Company, Tempe, AZ
- Category: 48 (Special) Best Bitter 11 Entries**  
*Gold* Double Barrel Ale, Firestone Walker Brewing Company, Paso Robles, CA  
*Silver* SweetWater ESB, SweetWater Brewing Company, Atlanta, GA  
*Bronze* Sunnyside Pale Ale, Snipes Mountain Brewery, Sunnyside, WA
- Category: 49 (Extra Special) Strong Bitter 19 Entries**  
*Gold* Baby Fitz ESB, Big Horn Brewing Company, Westminster, CO  
*Silver* Black Rock ESB, Great Basin Brewing Company, Sparks, NV  
*Bronze* Bobby Magee's ESB, Zig's Kettle & Brew, Jackson, MI
- Category: 50 Scottish-Style Ale 16 Entries**  
*Gold* Scotch Ale, Boston Beer Company, Boston, MA  
*Silver* Scottish Ale, Nasu Kohgen Beer Company Ltd., Takakukuh, Japan  
*Bronze* Mic Finn's Wee Heavy, Mickey Finn's Brewery, Libertyville, IL
- Category: 52 English-Style Brown Ale 25 Entries**  
*Gold* Sweet George's Brown, Dillon Dam Brewery, Dillon, CO  
*Silver* South Shore Nut Brown Ale, South Shore Brewery, Ashland, WI  
*Bronze* Walnut Brown Ale, Vine Park Brewing Company, St. Paul, MN
- Category: 53 Old Ale 10 Entries**  
*Gold* Old English Ale, Redwood Brewing Company, Flint, MI  
*Silver* Jubel 2000, Deschutes Brewery, Inc., Bend, OR  
*Bronze* Old Ale, Iron Hill Brewery & Restaurant, West Chester, PA
- Category: 54 Strong Ale 12 Entries**  
*Gold* Dizzy Lizzy Barleywine, Boulder Creek Brewing Company, Boulder Creek, CA  
*Silver* Sopris, Glenwood Canyon Brewing Company, Glenwood Springs, CO  
*Bronze* Old Stock Ale, North Coast Brewing, Ft. Bragg, CA
- Category: 55 Strong Scotch Ale 18 Entries**  
*Gold* Nils Oscar Julol 2001, Nils Oscar Bryggeri & Branneri, Stockholm, Sweden  
*Silver* Arcadia Scotch Ale, Arcadia Brewing Company, Battle Creek, MI  
*Bronze* McAuslan Scotch Ale, LaBrasserie McAuslan Brewing Inc., Montreal, Canada
- Category: 56 Other Strong Ale or Lager 14 Entries**  
*Gold* Capital Blonde Doppelbock, Capital Brewing Company, Inc, Middleton, WI  
*Silver* Star Brew, Marin Brewing Company, Larkspur, CA  
*Bronze* White Knuckle Ale, Marin Brewing Company, Larkspur, CA
- Category: 57 Barley Wine-Style Ale 22 Entries**  
*Gold* 1701 Tricentennial, Oggi's Pizza & Brewing Co. - San Diego, San Diego, CA  
*Silver* Switch Stance Strong Ale, Pizza Port - Carlsbad Brewery, Carlsbad, CA  
*Bronze* Release the Hounds Barley Wine, Bull & Bush Brewery, Denver, CO
- Category: 58 Robust Porter 30 Entries**  
*Gold* Old Leghumper, Thirsty Dog Brewing Company, Akron, OH  
*Silver* Billy Bowlegs Buffalo Beer, Spanish Springs Brewing Company, The Villages, FL  
*Bronze* Summit Great Northern Porter, Summit Brewing Company, St. Paul, MN
- Category: 59 Brown Porter 20 Entries**  
*Gold* Chocolate Porter (Three Threads), Bayhawk Ales, Inc., Irvine, CA  
*Silver* SweetWater Exodus Porter, SweetWater Brewing Company, Atlanta, GA  
*Bronze* Pioneer Porter, Fredericksburg Brewing Company, Fredericksburg, TX

- Category: 60 Sweet Stout 11 Entries**  
*Gold* Iron Horse Stout, Gordon Biersch Brewery Restaurant Group Inc., Chattanooga, TN  
*Silver* Saint Arnold Winter Stout, Saint Arnold Brewing Company, Houston, TX  
*Bronze* Cream Stout, Redwood Brewing Company, Flint, MI
- Category: 61 Oatmeal Stout 21 Entries**  
*Gold* Alaskan Stout, Alaskan Brewing Company, Juneau, AK  
*Silver* Stonely Oatmeal Stout, Third Street Ale Works, Santa Rosa, CA  
*Bronze* Sinners Stout, Angelic Brewing Company, Madison, WI
- Category: 62 Imperial Stout 14 Entries**  
*Gold* Imperial Stout, Rogue Ales, Newport, OR  
*Silver* Brooklyn Black Chocolate Stout, Brooklyn Brewery, Brooklyn, NY  
*Bronze* Old Rasputin Russian Imperial Stout, North Coast Brewing, Ft. Bragg, CA
- Category: 63 German-Style Kölsch/Köln-Style Kölsch 17 Entries**  
*Gold* Zunft Kölsch, Erzquell Brauerei Bielstein, Wichl-Bielstein, Germany  
*Silver* Gaffel-Kölsch, Privatbrauerei Gaffel, Köln, Germany  
*Bronze* Golden Arm, Piece Brewery, Chicago, IL
- Category: 64 German-Style Brown Ale/Düsseldorf-Style 19 Entries**  
*Gold* Otis Alt, Elk Grove Brewery Restaurant, Elk Grove, CA  
*Silver* Alle Tage Altbier, McNeill's Brewery, Brattleboro, VT  
*Bronze* Ale-Er Ego Amber, Hopsl Bistro & Brewery, San Diego, CA
- Category: 66 South German-Style Weizen/Weissbier 46 Entries**  
*Gold* Martini Weissbier Hell, Einbecker-Brauhaus AG, Einbeck, Germany  
*Silver* Penn Weizen, Pennsylvania Brewing Company, Pittsburgh, PA  
*Bronze* Tucher Kristall Weizen, Tucher Bräu GmbH & Company KG, Fürth, Germany
- Category: 67 South German-Style Dunkel Weizen/Dunkel 13 Entries**  
*Gold* Hofmühl - Weissbier Dunkel, Privatbrauerei Hofmühl, Eichstatt, Germany  
*Silver* Distelhauser Dunkles Weissbier, Distelhauser Brauerei Ernst Bauer GmbH & Company KG, TBB, Distelhausen, Germany  
*Bronze* Tucher Dunkles Hefeweizen, Tucher Bräu, Fürth, Germany
- Category: 68 South German-Style Weizenbock/Weissbock 10 Entries**  
*Gold* Plank Heller Weizenbock, Brauerei Plank, Laaber, Germany  
*Silver* Delusionator Weizenbock, Linden's Brewing Company, Ft Collins, CO  
*Bronze* St. Nick's Weizenbock, Sweetwater Tavern & Brewery, Centerville, VA
- Category: 69 Irish-Style Red Ale 15 Entries**  
*Gold* Irish, Il Vicino Brewing Company - Albuquerque, Albuquerque, NM  
*Silver* Red Hills Amber, The Buckhead Brewery & Grill, Stockbridge, GA  
*Bronze* Starr Hill Amber Ale, Starr Hill Restaurant & Brewery, Charlottesville, VA
- Category: 70 Classic Irish-Style Dry Stout 9 Entries**  
*Gold* Blarney Sister's Dry Irish Stout, Third Street Ale Works, Santa Rosa, CA  
*Silver* O'Hanlons Port Stout, O'Hanlons Brewing Company Ltd., Whimble, England  
*Bronze* Celtic Stout, Fitzpatrick's Brewing Company, Iowa City, IA
- Category: 71 Foreign-Style Stout 16 Entries**  
*Gold* Zonker Stout, Snake River Brewing Company, Jackson, WY  
*Silver* Obsidian Stout, Deschutes Brewery, Inc, Bend, OR  
*Bronze* Nils Oscar Imperial Stout 2001, Nils Oscar Bryggeri & Branneri, Stockholm, Sweden
- Category: 72 Golden or Blonde Ale 32 Entries**  
*Gold* Mother Lode Golden Ale, Laurelwood Public House & Brewery, Portland, OR  
*Silver* Rickard's Pale, Molson Canada, Etobicoke, Canada  
*Bronze* Griffon Extra Pale Ale, LaBrasserie McAuslan Brewing Inc., Montreal, Canada
- Category: 73 American-Style Pale Ale 50 Entries**  
*Gold* Piston Pale Ale, Laurelwood Public House & Brewery, Portland, OR  
*Silver* Bridge Port India Pale Ale, Bridge Port Brewing Company, Portland, OR  
*Bronze* Mt. Tam Pale Ale, Marin Brewing Company, Larkspur, CA
- Category: 74 American-Style India Pale Ale 41 Entries**  
*Gold* Wipeout IPA, Pizza Port - Carlsbad Brewery, Carlsbad, CA  
*Silver* Hoptown IPA, HopTown Brewing Company, Pleasanton, CA  
*Bronze* Big Eye IPA, Ballast Point Brewing Company, San Diego, CA
- Category: 75 American-Style Amber/Red Ale 35 Entries**  
*Gold* Calico Amber Ale, Ballast Point Brewing Company, San Diego, CA  
*Silver* Believer's Bitter, Angelic Brewing Company, Madison, WI  
*Bronze* Oasis Capstone ESB, Oasis Brewery, Boulder, CO
- Category: 76 American-Style Brown Ale 19 Entries**  
*Gold* Nut Brown Ale, Red Rock Brewing, Salt Lake City, UT  
*Silver* Doryman's Dark Ale, Pelican Pub & Brewery, Pacific City, OR  
*Bronze* Slow Down Brown, Il Vicino Brewing Company - Albuquerque, Albuquerque, NM



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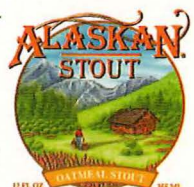
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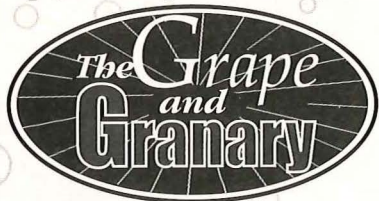
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#### **Winemaking** (from page 29)

##### **Acidity and pH**

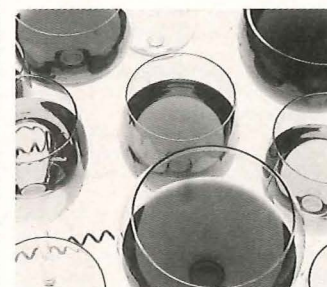
The other major attributes of wine that should be checked at crush are acidity and pH. Unlike grain, fruits naturally have a considerable amount of acid, usually malic, citric or tartaric. Like bittering hops in beer, acid

balances the relative sweetness of the fruit flavors in wine. A light-bodied, dry wine needs less acid to achieve a good balance, just as a lighter beer needs less hops for the desired effect. On the other hand, a full-bodied or sweeter wine needs more acidity, just as a strong ale or barley wine requires a good hop backbone. Wines without enough acidity are called "flabby" or "soft." Those with too much are termed "tart" or "astringent." Red wines generally need to end up with 0.5 to 0.65 grams per liter (g/L) of total or titratable acidity (TA). White wines generally need a TA of 0.7 to 0.9 g/L, and more for sweeter wines.

The fermentation process often transforms acids in wine. Malic (green apple) acid is converted to lactic (sour milk) acid by a process called malolactic fermentation. This process is beneficial to most red grape wines because it reduces the sharp acidity of the must to produce a smoother mouthfeel. On the other hand, many white grape (and other fruit) wines do not normally go through malolactic fermentation because the bacteria responsible are usually found on the skins of the grapes and not in the juice. Wine-makers can actually control the malolactic process by inoculating the must with malolactic bacteria to encourage it, or by adding SO<sub>2</sub> and cooling the must to inhibit it. A simple acid testing kit involving a basic titration is available at most winemaking shops and will suffice for most home winemaking.

The pH measurement is somewhat

## Ramblin' Rosé Grape Wine



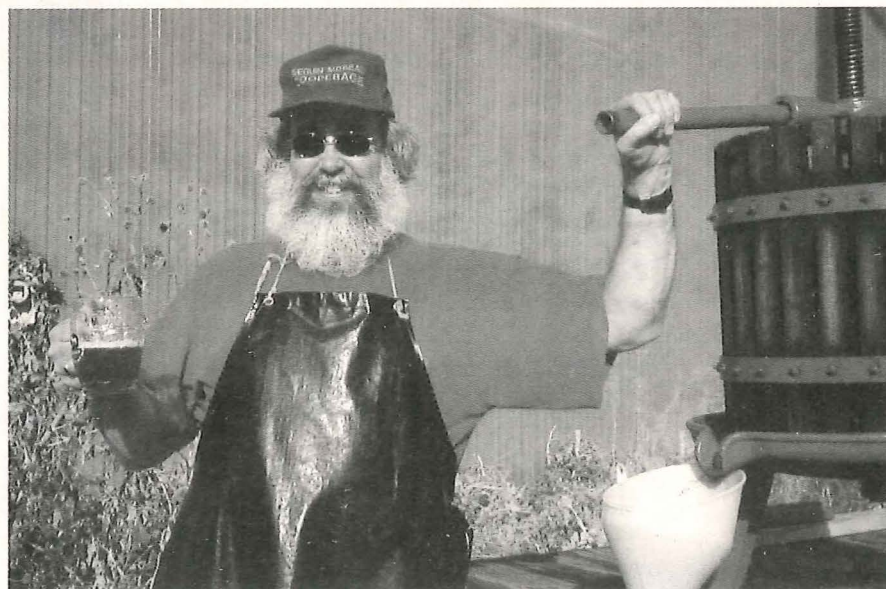
#### **Ingredients**

- 75-100 lb (34-45 kg) fresh grapes (preferably a red or black V. vinifera variety such as Merlot or cabernet franc)
- 1/4 tsp (1.2 ml) potassium metabisulfite (or 5 Campden tablets)
- 2 tbsp (30 ml) yeast nutrient
- 2 tsp (10 ml) pectic enzyme
- 2 packets Côte des Blancs (Epernay) or Pasteur champagne dried wine yeast

#### **Procedure**

Crush grapes, removing stems, into the primary fermenter. Add prepared sulfite solution and pectic enzyme. Leave loosely covered at room temperature for 12 to 24 hours. Press crushed grapes in a winepress, saving only the juice. Transfer must to fermenter. Allow plenty of headspace (at least six inches in carboys). Rehydrate yeast in one cup of 95° F (35° C) sterilized water and stir into must.

Fermentation should start within 12 hours. Keep temperature of must between 60 and 65° F (16 and 18° C). After seven to 10 days, when sugar content is less than 2° Brix, rack the wine off its sediment, with aeration, into another fermenter. Add 25 ppm sulfite when fermentation has ceased. Rack again in three to four weeks or when wine is stable. Continue to rack every three to four weeks without aeration. Bottle as described above in six months to one year.



**It takes a lot of good beer to make great wine.**





**Pressing the crushed grapes.**

more complicated, but important nonetheless. Wines have a much lower pH than beers—normally 3.4 to 3.7 for reds and 3.2 to 3.4 for whites (finished beer is usually between 4.0 and 4.4). Wines with high pH readings will not age well; a low pH may inhibit fermentation (especially malolactic fermentation) causing the resultant wine to be extremely tart and virtually undrinkable.

The best way to measure pH is with a pH meter that can be calibrated with a neutral (pH 7.0) solution. Most good meters cost at least \$150 and are too expensive for most home winemakers. A rough substitute, pH papers can be difficult to read. If you're within the ranges suggested though, the wine will probably be fine. If you are a stickler for detail, the best solution might be to have a lab test your wine after fermentation, when you can adjust pH with an acid addition.

## Fermentation

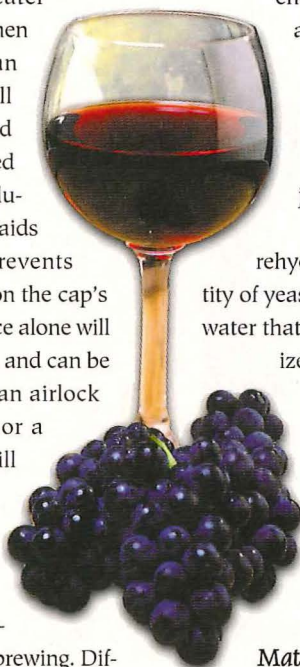
The normal fermentation temperature for fruit wines is 70 to 80° F (21 to 26.5 °C). Grape wines are usually fermented at higher temperatures for reds [up to 90° F (32.5 °C)] and cooler ones for whites [around 60° F (15.5 °C)] to obtain greater extract and/or fruit flavors. When fermented on the skins in an open container, the must will push up a cap of pulp and foam, which should be punched down and stirred back into solution at least once daily. This aids in the release of CO<sub>2</sub> and prevents acetic bacteria from forming on the cap's surface. Wines made from juice alone will not need to be punched down and can be fermented in a carboy with an airlock (and plenty of headspace) or a blow-off tube. Most wines will ferment out in seven to 10 days, depending on the temperature and yeast strain used.

Yeast selection is as important in winemaking as it is in brewing. Different yeasts can radically alter the character of a wine—Côte des Blancs (Red Star Yeast, Milwaukee, Wis.), for example, usually creates a softer, fruitier wine than Premier Cuvée (Red Star). Suppliers such as Wine Lab (Napa, Calif.) can help you

choose the right yeast for your fruit. One notorious all-purpose yeast strain (Davis strain 522) still recommended by many winemaking shops has a tendency to produce hydrogen sulfide (rotten egg) odors. Unlike in brewing, at least in my experi-

ence, liquid yeast does not offer any particular benefit to the winemaker. Most dried yeast, if less than six months old and stored in a cool, dry place in an airtight container, works just fine.

To use dried yeast, simply rehydrate the recommended quantity of yeast in 90 to 100° F (32 to 38 °C) water that has been boiled first to sterilize it. Allow the mixture 10 to 15 minutes to develop a froth, then pitch it into the must. Aerating the must at the start of the fermentation is not as critical as it is with beer—most wine yeast strains are quite active.



## Maturation

After fermentation, wine should be separated from the fruit skins, called pomace, and strained into glass or stainless steel for further aging. You can use a simple nylon mesh bag and funnel or a wine press for this operation. Winemakers using



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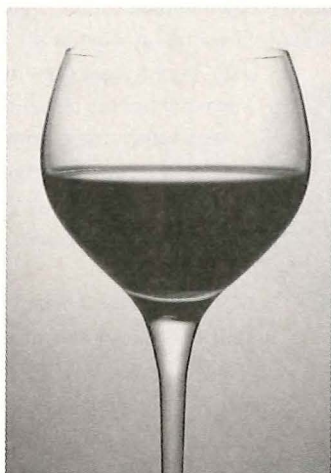
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# Plum Passion Wine



## Ingredients

- 20-25 lb (9-11.3 kg) fresh plums
- 1/4 tsp (1.2 ml) potassium metabisulfite (or 5 Campden tablets)
- 10 lb (4.5 kg) corn or cane sugar
- 2 packets Pasteur champagne dried wine yeast
- 2 tbsp (30 ml) yeast nutrient
- 2 tbsp (30 ml) pectic enzyme
- 2-3 gal (7.6-11.3 L) chlorine-free fresh water

## Procedure

Cut plums in half and remove the stones. Crush with a wooden or stainless steel spoon into primary fermenter. Mix metabisulfite in a little warm water and stir in. Heat two gallons of water and dissolve sugar. Pour over fruit, cover and allow to cool, loosely covered, to around 70° F (21° C) (12 to 24 hours). Add pectic enzyme. Take must sample and test for total acidity. Adjust with tartaric acid or dilute if necessary to attain a total acidity of 0.5 to 0.6 g/L for 5.5 gallons of must. Take hydrometer reading and adjust with sugar or water as necessary to 21 to 23° Brix on your hydrometer scale. Prepare yeast starter by boiling one cup of water for five minutes and allow it to cool to 95° F (35° C). Add yeast and stir. Wait 10 to 15 minutes until yeast puffs up. Add to fermenter, stir in well and cover with lid.

Fermentation should begin within 12 hours. Punch down pulp cap with spoon and stir it back into the must twice daily until fermentation ceases (seven to 10 days), or when sugar content is below 2° Brix. Strain must through nylon bag and funnel into carboy. Leave at least four

inches of headspace. (Save any extra wine in spare gallon jugs.) Attach airlock and wait for fermentation to subside. Check every two to three days, taking weekly hydrometer readings. When wine is below 1° Brix or is stable (reading stays the same), rack (siphon carefully off sediment) into second carboy with aeration, allowing wine to flow down the side of the carboy. Fill within two inches of top and attach airlock.

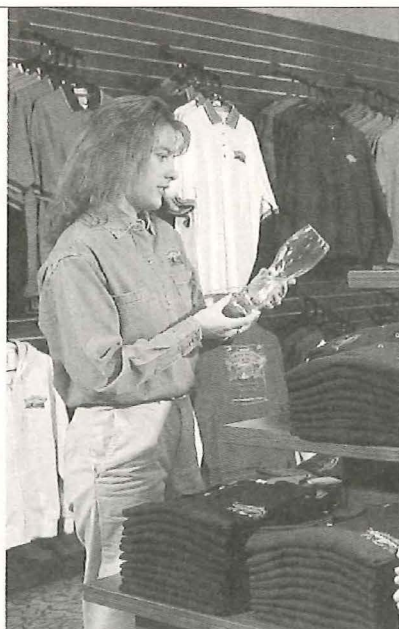
Continue to rack the wine without aeration (siphon directly into bottom of carboy) every three to four weeks—at least three more times before bottling. Add sulfite again at the rate of 1/8 teaspoon or two Campden tablets per five gallons on the second racking. Add finings if desired at the last racking if the wine is not clear. Bottle by siphoning into clean, sterilized bottles, allowing approximately two inches of air space in each before corking. Leave bottles upright overnight, then store bottles in a cool, dark place on their sides or inverted so the wine is in contact with the cork. Drink in six months to one year after bottling.



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grapes often separate the wine into free run (the wine simply poured off the pomace) and press wine, which picks up more of the fruit's tannins and skin flavor. These can be later blended or made into separate wines.

Most wines will benefit from aeration at this point: Simply run the wine down the side of the vessel you are filling. This drives off the odors of sulfur compounds produced during fermentation. After this racking, wines will also require an additional two to three weeks to complete the secondary phase of fermentation. With red wines, which may be undergoing malolactic fermentation, don't add additional SO<sub>2</sub> and don't allow the temperature of the wine to drop below 60° F (15.5° C).

Rack again about three to four weeks later (not until malolactic fermentation is completed for red wines). At this point, you



can add a small amount of SO<sub>2</sub> (no more than 25 ppm, or about one Campden tablet per five gallons) to prevent oxidation. Unless off-odors linger, wine beyond this point should be racked in a way that minimizes contact with air—into the bottom of the carboy rather than down the side. All wines benefit from several rackings before bottling. These transfers both remove sediment from dead yeast cells (discouraging autolysis) and are a precaution against reduction. The opposite of oxidation, reduction occurs when not enough oxygen is present to prevent the formation of nasty compounds such as mono- and di-mercaptan.

Fruit wine maturation may take several months to several years. It is important to keep your wine away from all air contact as it ages. With carboys, check airlocks weekly. Barrels have to be topped up to compensate for evaporation at least once monthly.

### Bottling and Storage

When the wine is stable and bright, usually after at least six months, you can bottle it. Use the best corks you can find, preferably at least 1.75 inches (44 mm) long and straight. Removable T-shaped corks will not make the best seal for most wines. You can soak corks in a sulfite solution before using. It is better, however, to buy them in airtight bags, which preserves their natural moisture and makes soaking unnecessary. Several hand-corking devices are available that compress the cork before shoving it into the bottle. For the serious winemaker, the freestanding single-lever model is definitely the way to go.

Wine bottles should be stored in a cool, dark place, lying on their sides or inverted so the wine contacts the cork. This prevents the cork from drying out, shrinking and letting air in. For reasons still not really understood, wine usually goes through a phase called bottle shock when it is packaged and is best cellared for at least a month before drinking. Most wines will throw some natural sediment in the bottle over time, so they may need to be set upright for a while or decanted before serving.

Whatever your preference, from cherry wine to cabernet, making wine at home

can be both a challenge and a pleasure. As in homebrewing, the enjoyment is as much in the process as the product. And sharing a fine glass of wine, like a well-made pint of beer, is truly one of the best things in life.

### Recommended Further Reading

Anderson, Stanley F. *The Art of Making Wine*. E.P. Dutton, New York, 1991. (Distributed by G.W. Kent, Ann Arbor, Mich.)

Iverson, Jon. *Home Winemaking Step by Step*, 2nd ed. Stonemark Publishing Co., Medford, Ore., 1998.

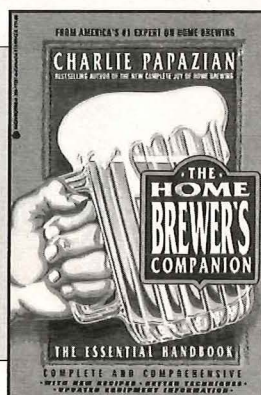
Paynaud, Émile. *Knowing and Making Wine*, translated by Alan Spencer. Wiley, New York, 1984.

Wagner, Philip. *Grapes into Wine*. Random House, New York, 1976.

Alan Moen is a homebrewer, winemaker, artist and writer. He has half an acre of wine grapes in Entiat, Wash.

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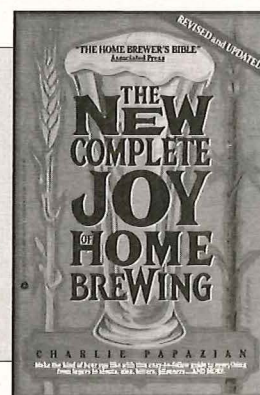
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# BREWING'S SWEETEST SECRET

BY BOB GROSSMAN

**SUGAR!** It's everywhere we look. It's such a basic part of our diets and lives that the average person consumes more than 150 pounds a year (that's 68 kilograms, by the way). Food production is not the only way we use sugar; it is also part of many manufactured goods including cement, cosmetics, electronics, plastics and medicine. Sugar has been at the center of trade wars, tax revolts, blockades, imperial domination and slavery. Along the way, it has influenced international trade, industrial development, environmental concerns and diet trends. When most people crave sugar, they grab a sweet piece of candy or a luscious dessert. Dieters are often warned to look for the hidden sources of sugar, especially in fruit juices, instant tea or coffee and soft drinks. We homebrewers drink our fair share of sugar from carbohydrate-laden beer.





## Or how to gain alcohol and flavor without all the malty body

You may be wondering why we're discussing sugar in a brewers' journal. Maybe you're thinking, "I don't use sugar in my beer—it makes bad beer." Actually, you may be surprised to know you are fermenting sugars from grains and malt extract every time you make beer. Indeed, it is impossible to make beer without sugar. And if you already add some common sugar to your beer, you're in good company because many of the best brewers in the world use sugar adjuncts in their recipes.

Yeast ferment sugars. The real rub comes down to terminology. In common usage, sugar encompasses a wide range of chemically diverse substances. In chemistry, sugar relates to a specific range of chemical compounds with some common characteristics. Individual compounds have specific names, including glucose, fructose and maltose. A substance commonly referred to as sugar (e.g. "brown sugar") may include a mix of chemical sugars in addition to a range of other compounds that provide color and flavor. There's an important relationship between the brewmeister and sugar. Good brewers know the types of sugars to avoid and ones that enhance the brewing experience.

In brewing we manipulate the natural enzymes of barley malt to convert starch into fermentable sugars, most commonly maltose. Yeast thrives on the mix of sugars produced from malt, but they do not care where the sugars come from. In rare instances, the type and concentration of a particular sugar (e.g., glucose) can affect a finished beer's flavor. Generally, however, the sugars themselves don't lend flavor to a beer. It is

the other substances that come along with the sugar that can contribute flavor to beer. Chemically, molasses, honey and maple syrup all contain a substantial amount of sugar. But they also contain other substances that create distinctive flavors—this is what brewers can use to their advantage.

Homebrewers today have the opportunity to explore the unique flavors available from various interesting sugars. In doing so, they can rediscover the unique beverages brewed by our ancestors who often relied on sugar alone for both flavor and fermentables.

### The History of Sugar

Various forms of sugar were harvested long before today's modern sugar refining processes were developed. A painting in a Spanish cave estimated to be 8,000 years old shows a man stealing honey from bees. Later, as people began to settle in villages, they kept bees for their prized honey. Early civilizations called honey "food of the gods." The Greeks and Romans named it ambrosia. The Egyptians were beekeepers and used honey and hive products for diet and health. They even transported their hives on barges along the Nile River to follow the bloom of flowers.

Native Americans taught the settlers how to harvest and make maple sugar and syrup from trees. In India and eastern tropical countries people tap certain palm trees for their sweet sap, which is used to make sugar. Sugar cane (*Saccharum officinarum*), a large tropical grass that grows in tropical and subtropical climates, was eventually used for sugar production. Early cultivation and sugar cane refining spread from India to China around


100 B.C., eventually reaching Europe around 600 A.D. Europeans then spread sugar cane cultivation and harvest as they traveled, beginning in the 1400s. Plantings were made in northern Africa, the country's West Coast and islands in the Atlantic Ocean. Christopher Columbus brought sugar cane plants to the Caribbean islands in 1493. Jesuit missionaries brought the plant to Louisiana in the 1750s, and the first American sugar mill was built in New Orleans in 1791.

Until the late 19th century sugar did not come in granulated form, but in a solid block or cone-shaped loaf. The cone shape came from the felt strainer into which the sugar syrup was poured to let the water seep out. The sugar solidified in this shape. To use block sugar, you broke off a piece and ground and powdered it. Every so often in antique shops you will see sugar snippers, which were used to cut pieces down into lump size for use in tea and coffee. Therefore, when old recipes called for "loaf sugar," cooks and brewers were using their locally available sugar. It was somewhat less refined than modern white sugar. Old recipes sometimes refer either to white, brown or black sugar. Modern brewers could substitute a blend of ordinary white and brown sugar in a brewing recipe.

Sugar beets (*Beta vulgaris*) have also been grown in temperate climates since Babylonian times and were used by the Greeks and Europeans. The sugar quality from beets was never as good compared with sugar cane because the secret of pure extraction was not known. Beets' quality and extraction science developed in the 18th and 19th centuries, but it took Napoleon to bring beet sugar into common production.

During Napoleon's war with England, he closed all European ports to English products. The blockade disrupted the flow of cane sugar from the English colonies in the West Indies, which made sugar scarce and expensive. Napoleon quickly developed thousands of acres of sugar beet farms and built 40 sugar-refining factories. The situation changed rapidly after 1815 when peace came to Europe and sugar cane was readily available. The price fell and all but one factory was gone within a year. The sugar beet industry still survives because sugar beets can be grown in cooler climates and the difficult terrains of Europe, North America and





the sugars themselves  
don't lend flavor to a beer,  
the substances that accompany  
the sugars carry the flavor

Asia; however, it is still second to sugar cane in total production.

### Sugar and Beer

A lack of malt and hops in the New World led early American brewers to substitute other sources of sugar and bittering herbs. Many of the favorite spices and herbs from old gruit recipes were substitutes for hops. Ground ivy or ale hoof, sage, spruce, pine and other herbs were used for their medicinal and inebriating effects and flavors. Molasses, loaf or brown sugar and maple sap or syrup were commonly used to stretch the fermentable extracts of grains. Even vegetables rich in starch, such as beans, squash and pumpkins, were used to make beer. (A range of these recipes is provided if you're feeling adventurous or just curious.)

Even though malt was readily available in Britain, brewers there began to use sugar in their beers during the late 1700s and early 1800s. Sugar from British Island plantations in the New World was cheap. Furthermore, using sugar adjuncts reduced taxes, which were levied on malt and grain receipts. Eventually, the tax assessors realized their losses and began to tax beer based on original gravity, thereby recapturing the tax on beer's sugar content. Of course, this method of taxation, combined with other influences during the 20th century, led to the long, slow decline of the strength of British ales. This is evident in the wide range products with less than 4 percent ABV found in nearly every British pub.

Modern Belgian brewers commonly brew

body and texture a bit leaner so the beers are lighter and more drinkable. Trappist trippels such as Westmalle and golden ales such as Duvel exemplify the taste and effect of a strong beer that looks like a pilsener but has the strength of a barley wine. Belgian brewers usually use very pure sucrose syrups or crystals formed into rock candi clumps.

As you see, sugar is an integral part of many traditional beer styles. Commercial brewers use various sources, types and forms for their fermentation characteristics, alcohol and strength enhancements, flavors and colors.

### A Brewing Sugar Primer

Each of the sugars listed below contributes different characteristic to beer.

**Agave syrup.** Used to make pulque and tequila. I've used it with honey to make tequila-flavored mead.

**Brown sugar.** Refined white sugar crystals blended and coated with molasses syrup, flavor and color to create a consistent taste and texture. Dark brown sugar will be quite evident in beer and will contribute heavy butterscotch, molasses and thick, full flavors. Lighter types are good in homemade root beer. Dark brown has a strong flavor that is good in gingerbread, baked beans, full-flavored foods and British old ales.

**Candi sugar.** Large crystals of sugar formed on suspended strings as hot liquid sugar cools. The process creates a very pure tasting sugar. Candi sugar is also caramelized, so it comes in various colors,

with sugar. Many of their best beers are brewed with gravities greater than 1.070, but sugar keeps the



### A Spoonful of Sugar

These beer (or nearly beer) recipes use various sugars; try them all for a sampling of beverages and sugars.

#### 18th Century Sage Ale

##### Ingredients for Five U.S. Gallons (19 L)

- 5 lb (2.26 kg) dark brown sugar
- 5 lb (2.26 kg) light brown sugar or 10 lb (4.5 kg) Demerara sugar or dark loaf sugar
- Juice of 9 lemons
- 5 oz (142 g) fresh sage leaves
- Ale yeast

• O.G.: 1.080

• F.G.: 1.040

#### Lemon Balm Ale

Same as Sage Ale but add 2 1/2 oz (71 g) dry lemon balm leaves

#### 1744 Litchfield Keeping Beer

##### Ingredients for Five U.S. Gallons (19 L)

- 15 lb (6.8 kg) British pale malt
- 1 lb (0.45 kg) British mild ale malt
- 1 lb (0.45 kg) steel cut oats
- 1 lb (0.45 kg) raw wheat (cut or rolled)
- 1 lb (0.45 kg) white navy beans
- 1 lb (0.45 kg) green split peas
- 1 lb (0.45 kg) Demerara or muscovado sugar
- 5 oz (142 g) Kent Goldings hops (90 min)
- 4 oz (113 g) Kent Goldings hops (30 min)
- 4 oz (113 g) Kent Goldings hops (finish)
- British ale yeast

• O.G.: 1.110

• F.G.: 1.030

Cook all the adjuncts for 10 minutes to make a thick porridge before adding to the stiff mash. Mature beer for at least a year.



## Maple Mead

### Ingredients for Five U.S. Gallons (19 L)

- 1 gal (3.8 L) maple syrup
- 1 gal (3.8 L) honey
- Yeast nutrient
- Lemon juice or tartaric acid
- White wine yeast

- O.G.: 1.120
- F.G.: 1.020

## Enkel-Belgium Single Abbey Beer

### Ingredients for Five U.S. Gallons (19 L)

- 5 lb (2.26 kg) light dry malt extract
- 1 lb (0.45 kg) Belgium candi sugar or Chinese yellow lump sugar
- 1 oz (28 g) Hallertauer hops (60 min)
- 1/2 oz (14 g) Hallertauer hops (30 min)
- 1/4 oz (7 g) Hallertauer hops (finish)
- Belgian yeast culture

- O.G.: 1.052
- F.G.: 1.015

## Quick Honey Cream Ale

### Ingredients for Five U.S. Gallons (19 L)

- 3 1/3 lb (1.5 kg) light hopped malt extract
- 1 lb (0.45 kg) light dry malt extract
- 1 lb (0.45 kg) clover honey
- 1/2 oz (14 g) Cascade or Willamette hops (10 min)
- 1/2 oz (14 g) Cascade or Willamette hops (finish)
- American ale yeast

This only requires a 30-minute boil because of the hopped extract. If you substitute unhopped extract, use 1 ounce Cascade hops in a 60-minute boil for bittering.

## Real Ginger Ale

### Ingredients for Five U.S. Gallons (19 L)

- 8-12 oz (226-340 g) peeled and chopped ginger (to taste)
- 1 vanilla bean
- Juice of 3 limes
- Juice of 3 lemons
- Turbinado sugar

Boil ginger and vanilla for five minutes. Cool, strain and add sugar and juice. To make a refreshing

(continued on page 62)

including clear, light, amber or brown. Available at homebrew stores by the pound. It contributes a smooth, clean taste and finish, along with a pleasant flowery aroma. It is said to enhance the head, too. The darker grades contribute color and flavor to dubbels and abbey beers. Use the light in trippels and golden specials.

**Chinese lump sugar.** Specialty rock sugar from the Kwangtung province. Found in Asian markets. The big clumps of crystallized sugar are slightly yellow or clear. They make a good addition to Belgium specialties, but they're difficult to dissolve.

**Date crystals.** Dried fruit crumbs. They seemed to make my beer cloudy and quite dry, but didn't contribute much taste.

**Demerara.** Light brown sugar popular in England and commonly used by British brewers. Large golden crystals often sticky and lumpy. Adds elegant smoothness and rich finish to beer. Adding one-half to one pound (0.45-0.9 kg) per five-gallon batch lightens body "a trace."

**Golden syrup and invert sugar.** Made by dissolving sucrose and citric acid in boiling water to create syrup. It is available commercially as Lyles Golden Syrup and Australian Golden syrup. Very smooth and mild butterscotch flavor. Use a 12-ounce can in British ale. Completely fermentable, it is a quick and easy gravity booster.

**Honey.** Adds a nice smooth lightness to beer, but no sweetness. Use more than a pound in five gallons to get some honey character in the finished beer. Light honeys, such as clover and orange blossom, work best. Wildflower and dark honeys can add unusual and unpredictable flavors. I've used orange honey in Belgian beers with excellent results.

**Maple syrup.** It takes 25 to 50 gallons of sap to produce one gallon of syrup. It is a pricey addition that adds a delicious but delicate woody taste to light beer styles. Look for grade B or candy grade. Can be used to make maple wine.

**Molasses.** Full of brown impurities and by-products. Available in light or mild, dark

and blackstrap syrups. Use lighter types for complexity; avoid blackstrap. Stick to small quantities when using the dark, strong types.

**Muscovado or barbados.** Very dark brown sugar, rich and full flavored with raisin, plum and currant notes, à la an aged fruitcake. A nice addition if you want the deep, complex tastes of old fruit and some dark color in a brew.

**Palm sugar (jaggery).** Taken from certain tropical trees. The harvest season lasts about three months and each tree can produce between 40 and 80 pounds of sugar. I haven't found a source to sample its flavor and fermentation characteristics.

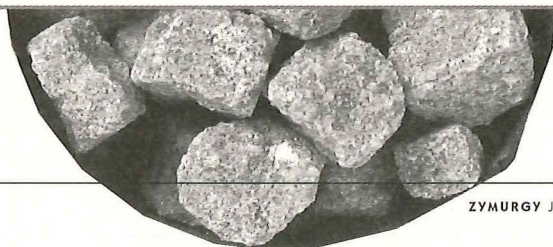
**Pillonchio.** A variety of Central and South American sugars are available in ethnic grocery stores. These dark brown cones have a very strong molasses flavor. Other types of less refined dark sugars and crystals are also available.

**Table sugar (sucrose).** Basic white sugar from cane or beets is 100 percent fermentable. Too much can contribute a cidery taste to beer.

**Treacle.** British molasses. It seems smoother, more like butter or caramel and more elegant than regular dark molasses from the supermarket. A must for brewing Old Peculiar-style old ales.

**Turbinado.** Light tan sugar, sometimes seen in health food stores as raw sugar. Some of the natural molasses is left on or added back to table sugar to allow a bit of color and flavor. Not as smooth and rich as Demerara.

Now you might think twice next time someone tries to impress you with their knowledge of the Reinheitsgebot purity law of 1516, which forbade the use of sugar and adjuncts in German beers. Maybe you'll also question the homebrewer's credo of not adulterating beer with sugar adjuncts. Perhaps your curiosity has been stimulated to taste these sugars. I hope you will feel comfortable using sugar when formulating a Belgian or British ale recipe or recreating historic ales. Sugar is indeed an integral and important part of the brewing process. (continued on page 62)





# german soft pretzels

**What could go better with a cool pint of your own beer than a soft pretzel fresh from your own oven?**

**T**here's something about that unique pretzel flavor that just begs for a beer. And they're easy—if you can brew your own beer, you can certainly bake authentic soft pretzels and wow your friends.

The recipe I'm going to share with you comes from an old German baker in Ann Arbor, Mich. I got it from a fellow baker who got it about 30 years ago and started his bakery by making and selling pretzels on Saturday mornings to the huge football crowds heading to Michigan Stadium. I have made up to 20 dozen with a crowd of volunteers for our elementary school's ice cream social as a fundraiser. They went like hotcakes, er, well more like hot pretzels, I guess.

There are a few quirky aspects of pretzel making. First, in order to get that distinctive pretzel flavor and color, you must simmer them briefly in a lye solution. If you don't, they're just funny shaped, soft salt bagels. Don't worry, the lye disappears after they are baked.

The lye solution isn't a dangerously strong one—1 tablespoon (15 ml) dry lye flakes per quart (liter) of water—but you don't want to get it in your eyes or on your skin. Food-grade lye can be hard to come by, but one source is [www.vgdllc.com](http://www.vgdllc.com) or 816-471-9500. If you can't get the lye or if you are making these with children, use a baking soda (sodium bicarbonate) solution instead. You'll need much more baking soda to get a similar flavor—about 1/3 cup per quart (liter).

Another pretzel-making quirk is that you must bake them on a non-aluminum cookie sheet. Since they're wet, they tend to stick, so it helps

to drain them a moment on a damp tea towel (not terry) before placing them on the cookie sheet.

The old German non-stick answer was to melt beeswax onto the sheet. The beeswax flavor is actually a traditional element of these pretzels, but non-stick spray also works. I use silicon-treated bakers' parchment, which is available in rolls at kitchen stores. I get it in boxes of 1,000 18-inch by 24-inch sheets. Perhaps a friendly local baker would give you a few sheets. I don't suppose I need to tell you what you can offer in return. Don't use non-stick pans with lye.

Pretzel salt is another important part of the authentic pretzel experience. It comes in compressed pellets a millimeter across that look like sleet. Perhaps you could get some for the same exchange as the parchment from that friendly baker who makes pretzels. Otherwise, kosher salt or other coarse salt will work, but these are flakes and are not as authentic.

You can make pretzels with nothing but flour, water, salt and yeast for fewer calories, but the sugar, milk and shortening (I'm sure the origi-

nal recipe used lard) make them richer and softer. Don't use bread flour; all-purpose flour is better for soft pretzels. Some amounts are by weight because this is a much more sensible measure than volume. You probably have a scale for your hops and grains. Otherwise, the ingredient packages will help convert to volume.

This recipe works well in a large mixer or food processor, and I have formatted the recipe for this (see note for hand mixing). To use a bread machine, follow manufacturer's instructions for dough.

**a  
twisted  
alternative to  
brewing**

**By Jeff Renner**





## German Soft Pretzels

### Makes 1 dozen

- 2 packets active dry yeast
- 1/4 cup (60 ml) water 105-115° F (40-45° C)
- 1 ounce (28 g) nonfat dry milk
- 3 ounces (85 g) shortening
- 1/4 cup (60 ml) sugar
- 1 teaspoon (5 ml) salt
- 19 ounces (about 4 cups) all-purpose flour  
enough additional water to make a soft dough,  
about 1 cup (240 ml)

Rehydrate the yeast in the 1/4 cup (60 ml) warm water and a pinch of sugar. Be sure to use a container that won't suck all the heat away. It should foam up in a few minutes. If you use instant yeast you can simply mix it with the flour and add the water later.

To use a mixer or food processor, combine the rest of the dry ingredients and mix. Add the yeast water when it is well hydrated and foamy, then turn on the mixer or processor and add water until you get a soft dough. Continue mixing until well kneaded.

To make the dough by hand, add the rehydrated yeast and other ingredients with half the flour to a large bowl, stir with a wooden spoon until mixed, then stir in as much of the remaining flour as possible. Turn out onto a work surface and knead in more flour to get a soft dough, then knead it until it is elastic and smooth, about five minutes.

Once kneaded, let the dough rise covered until doubled, about 30 minutes.

Preheat the oven to 400 °F.

Now prepare the lye solution. Put cold water in a nonreac-

tive pot and add one tablespoon household lye crystals for each quart. **IMPORTANT!** Add the lye to the water, not the other way around. Use normal eye and skin precautions. Bring to a simmer.

When the dough is doubled, divide into 12 equal pieces, roll out into 18- to 20-inch lengths then twist into the pretzel shape.

Start with the dough in "U," then cross the ends twice into a double twist. Next flip the ends down over the loop and press each part of the ends onto the loop where they cross, making a "tack weld."

Once all the pretzels are twisted, start with the first one and use a slotted ladle or spatula (not your fingers) to immerse each pretzel in the simmering lye water for 15 to 20 seconds. The pretzels should expand and begin to float. Remove and place on a damp tea towel to drain. Sprinkle with pretzel salt.

Now arrange the pretzels on a prepared cookie sheet (you will probably need to use two cookie sheets, but bake one at a time) and bake until done, about 12 to 15 minutes. While they are cooling a bit, pour yourself a well-deserved pint and then enjoy the pretzels. I recommend a classic American pilsener (of course) or other pale lager, hefeweizen or pale ale.

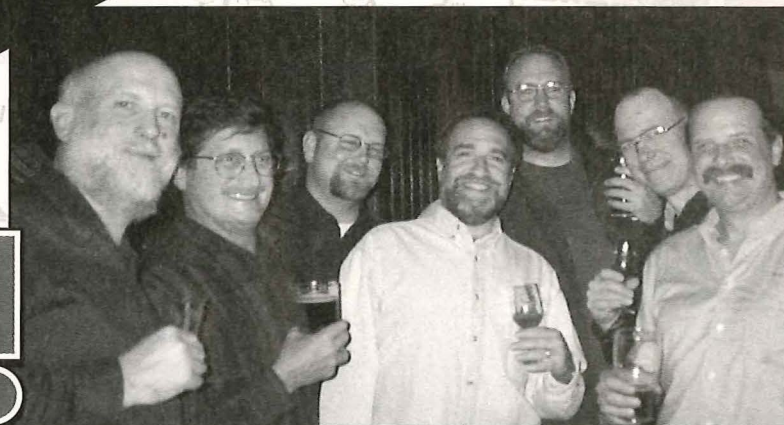
The salt can absorb moisture if the pretzels are stored in plastic too long. They freeze well, just cool thoroughly before freezing. Thaw them unwrapped and pop them into the oven to reheat or gently microwave them if you are in a hurry.

Jeff Renner has been a homebrewer for nearly 30 years and owns a wholesale French bread "micro-bakery" in Ann Arbor, Mich. He thanks the many *HomeBrew Digest* readers who test-drove this recipe and provided feedback.





# AOB On the Road!

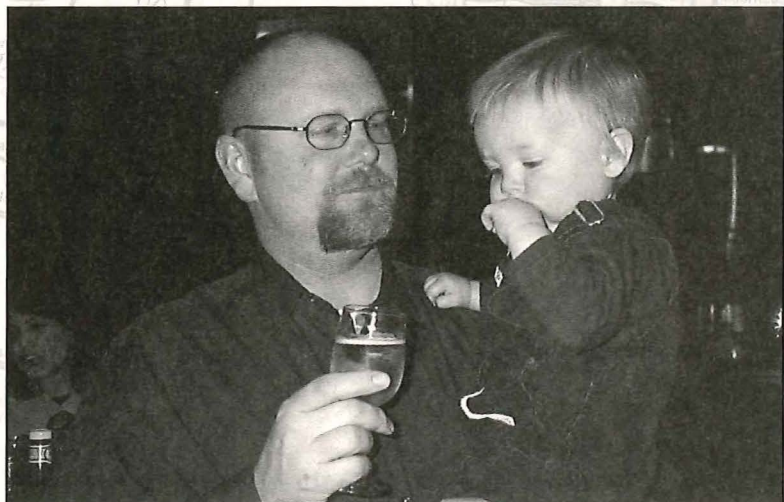
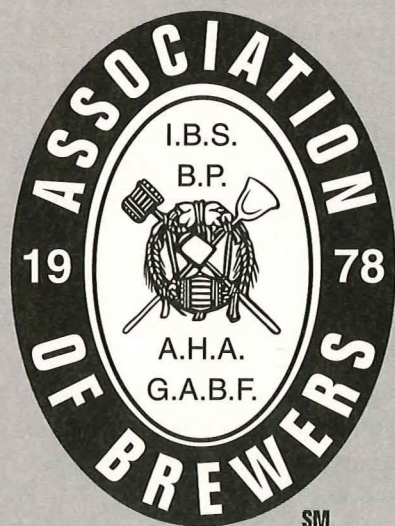


**In Chicago: Randy Mosher, Bill Siebel, Greg Hall, Charlie, Greg Browne, Ray Daniels, and Ed Bronson.**

In the first half of April 2002, Association of Brewers President Charlie Papazian toured the great Midwest on his way to the Craft Brewers Conference in Cleveland. Stops included homebrew shops and brewpubs as well as evening visits with many homebrew clubs along the way. This collection of pictures shows some of the places and people he visited with along the way.



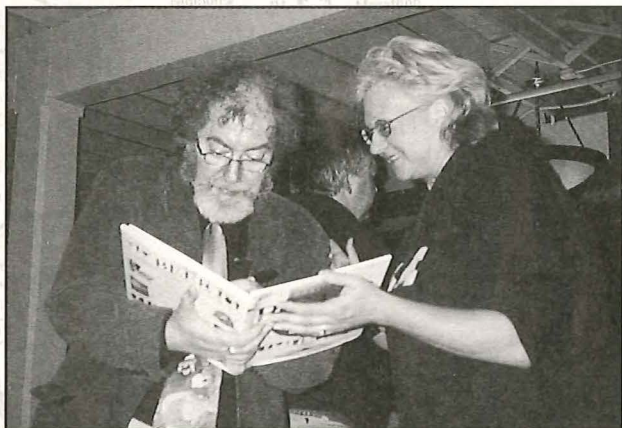
**From left: Anita Johnson, owner of Great Fermentations in Indianapolis, Ind., enjoys an apple-honey wine with a customer and Charlie Papazian.**



**A little brewer in the making. Goose Island's Greg Hall with son Henry.**

PHOTO COURTESY OF SANDRA AND CHARLIE PAPAZIAN

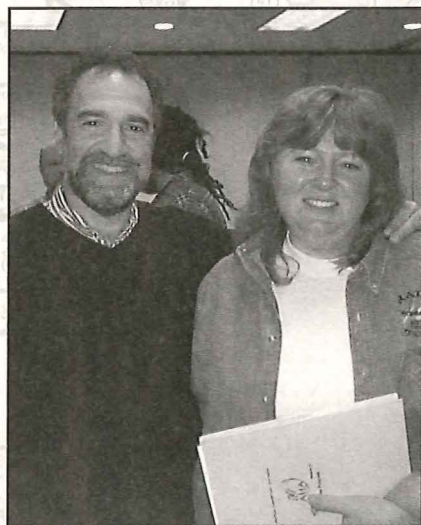




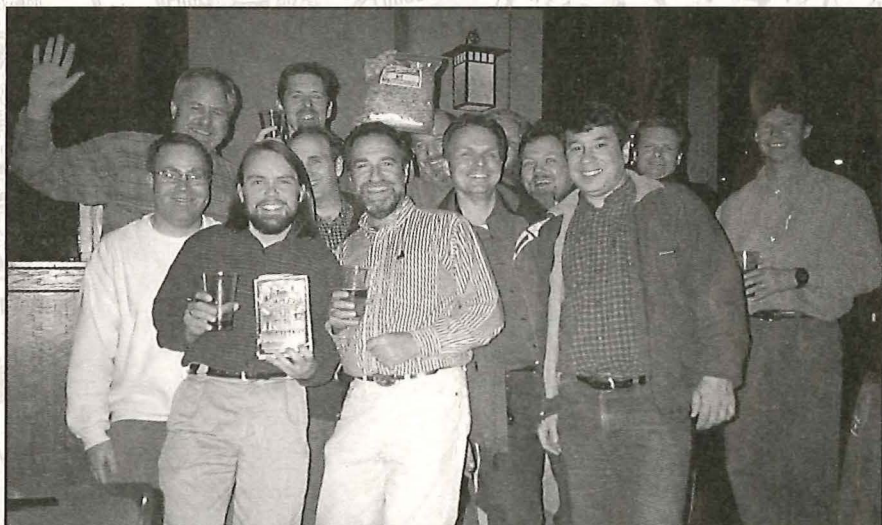
**In Cleveland, Michael Jackson joined AOB on the Road and whole different set of books got signed.**



**Kevin Matalucci, head brewer, and John Hill, owner of Broad Ripple Brewpub in Indianapolis, Ind.**



**Charlie with AHA Board of Advisor Susan Ruud from Fargo, N.D.**



**The Minnesota Homebrewers Association at Rock Bottom in Minneapolis, Minn.**



**Sandra and Charlie Papazian with new AHA members at J.T. Whitney's brewpub in Madison, Wis.**



**At The Beer Gear Homebrew Supply Shop in Tinely Park, Ill. To Charlie's right is Marty Nachel, shop owner and David Wendell of Wyeast Labs.**



# For Geeks Only

**Reader Advisory:** *Warning!* These pages are rated XG (eXtra Geeky) by the Bureau of Magazine Mucktymucks. 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.

## How Cool Can You Get? Immersion Chiller Performance Defined

By Chris Bible

**W**ort cooling is a critical step in the homebrewing process. Rapid cooling minimizes the time during which the wort is susceptible to contamination by bacteria or wild yeast. In addition, it prevents the formation of dimethyl sulfide (DMS) from its precursors, which may still be present in the wort.

Homebrewers can rapidly cool wort from near-boiling temperatures in several ways. Using an immersion wort chiller is probably one of the most common methods. An immersion chiller typically consists of 20–50 feet (6–15 meters) of coiled copper tubing with appropriate fittings on either end to allow garden-hose-supplied cooling water to flow into and out of the coil. With the water supply shut off, place the coil into the wort several minutes prior to completion of the boil to sterilize the coil. At the end of the boil, turn off the heat source and allow the cooling water to flow through the coil. The heat in the wort is transferred to the water in the coil as it flows through the system. Commercial brewers recover the hot water generated by this process for use in brewing.

Typical immersion chillers remove heat at rates that reduce the wort temperature from near boiling (approximately 212° F or 100° C) to yeast-pitching temperature (70–75° F or about 23° C) within a matter of 10 to 20 minutes.

Essentially, the immersion chiller is nothing more than a simple heat exchanger. The rate at which an immersion chiller removes heat from the wort is dependent upon several things:

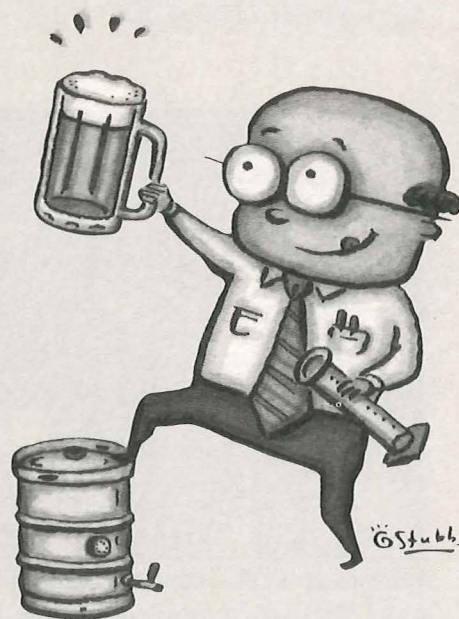
- The surface area of the immersion chiller that is submerged in the wort
- The temperature of the cooling water
- The temperature of the wort
- The rate at which cooling water flows through the immersion chiller
- The degree of agitation or movement of the wort near the immersed coil
- The “overall heat transfer coefficient” of the immersion chiller

Increasing the surface area of the immersed chiller increases wort-cooling rates. Having more cold surface area cools the wort more quickly by allowing more hot wort to contact cold surface area per unit time. More surface area equals faster cooling.

Wort and cooling-water temperatures effect the overall cooling rate. The greater the difference between the cooling-water temperature and the wort temperature, the faster the wort will be chilled. The water-flow velocity influences the coil's cooling efficiency as well. At higher cooling-water flow rates, the water has less time to heat up as it travels through the coil, so it doesn't remove as much heat as when it moves more slowly. Colder

coil and hotter wort (larger temperature difference) equals faster cooling.

How much the wort is agitated around the coil is also important to heat transfer rates. If the immersion coil is simply allowed to sit in the boiling kettle with no agitation, it will take much longer to cool the wort. The reason is that the wort nearest the coil will be cooled most quickly, but will only be moved away from the coil by convective forces within the system. Convective movement is a relatively slow process. So, without agitation, wort closest to the coil will be relatively cool compared with the remainder of the wort. If the temperature of the wort nearest the coil is relatively close to the temperature of the coil, very little heat transfer will occur (recall that larger temperature differences equals faster cooling). Of course, you must not agitate the wort too much when it is at its hottest. Too much agitation can cause hot-side aeration and oxidation. An easy, gentle movement of wort around the

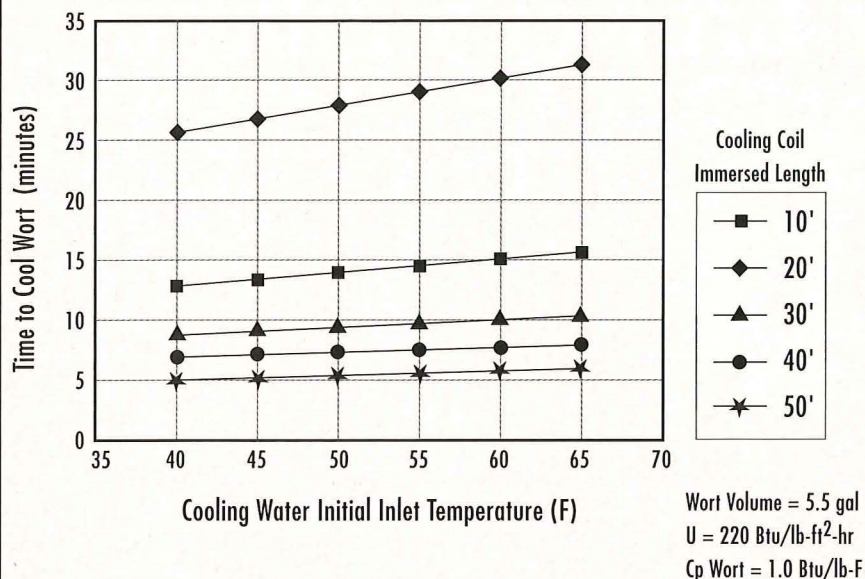


**Are You A Geek Too?** *Zymurgy* is looking for contributions for the “For Geeks Only” section. If you have studied a particular area of brewing science using in-depth library research or experimental data and would like to see the results published here, let us know by contacting Ray Daniels at [ray@aob.org](mailto:ray@aob.org) or via the mail address listed in the masthead on page 2.

ILLUSTRATIONS BY  
CHARLES STUBBS



**Figure 1: Time Required to Cool Wort  
From 212° F (100° C) to 77° F (25° C)**



immersed coil is all that is required. Good agitation equals faster cooling.

The "overall heat transfer coefficient" of the chiller is a number that quantifies the rate at which heat will be transferred from the wort into the cooling water for specified chiller geometry, wort temperature and cooling-water temperature. This number is empirically determined and varies from system to system. In *Perry's Chemical Engineers' Handbook* (McGraw-Hill, 1997), authors Robert Perry and Don Green state that for a system with forced convection and with hot-side/cold-side medium consisting of watery solution/water, respectively, the overall heat transfer coefficient of the system will be between 195 and 245 Btu/hr-ft<sup>2</sup>-°F.

The above discussion can be summed up with a few relatively simple equations. This equation describes the rate at which heat is removed from the wort by an immersion chiller.

$$Q_1 = UA\Delta T$$

Where:

$Q_1$  = heat removal rate, Btu/hr

$U$  = overall heat transfer coefficient, Btu/hr-ft<sup>2</sup>-°F

$A$  = surface area of immersed coil, ft<sup>2</sup>

$\Delta T$  = average temperature difference between wort and cooling water during heat transfer process

This next equation describes the total amount of heat that must be removed from the wort to bring it to optimal fermentation temperatures:

$$Q_2 = mC_p\Delta T$$

Where:

$Q_2$  = total heat removal, Btu

$m$  = mass of wort, lbs

$C_p$  = heat capacity (or specific heat) of wort, usually close to 1.0 Btu/lb-°F

$\Delta T$  = temperature change of wort

The following example illustrates how these equations can be used to predict the amount of time it will take to chill wort.

Assumptions:

Amount of wort to be cooled: 5.5 gal

Specific gravity of wort: 1.070

Initial temperature of wort: 212° F (100° C)

Final temperature of wort: 77° F (25° C)

Inlet temperature of cooling water: 70° F (21° C)

Initial outlet temperature of cooling water: 140° F (60° C)

Final outlet temperature of cooling water: 72° F (22° C)

Equipment: a 50-foot cooling coil that is 3/8-inch outside diameter and has 46 feet of coil immersed in the wort

$U = 220 \text{ Btu/lb-ft}^2\text{-°F}$  (the average of the range)

To determine how much total heat must be removed, use  $Q_2 = mC_p\Delta T$ :

$$Q_2 = (5.5 \text{ gal})(8.34 \text{ lb/gal for water})(1.070 \text{ S.G. of wort})(1.0 \text{ Btu/lb-°F})(212° \text{ F} - 77° \text{ F})$$

$$Q_2 = 6,626 \text{ Btu}$$

To determine how long it will take to cool this wort to 77° F, use  $Q_1 = UA\Delta T$

$$Q_1 = (220 \text{ Btu/lb-ft}^2\text{-°F})(4.52 \text{ ft}^2)(56.5° \text{ F})$$

$$Q_1 = 56,134 \text{ Btu/hr}$$

Then divide  $Q_2$  by  $Q_1$ :

$$Q_2/Q_1 = 6,626 \text{ Btu heat removal required} / 56,134 \text{ Btu/hr heat removal rate} = 0.12 \text{ hr} = 7.2 \text{ minutes}$$

Remember, in this example the  $\Delta T$  value is the average temperature difference between the coil and the wort during the *entire* duration of the cooling process. Initially the wort will be close to 212° F (100° C), the inlet temperature of the cooling water will be 70° F (21° C), and the outlet temperature of the cooling water will be about 140° F (60° C). Near the end of the cooling process, the wort temperature will be close to 77° F (25° C), the inlet cooling water temperature will still be 70° F (21° C) and the outlet cooling water will be about 72° F (22° C).

Based on these calculations and reasonable assumptions about the conditions encountered by homebrewers, we can prepare a graph (see Figure 1) that depicts wort cooling time as a function of cooling water inlet temperature and immersed coil length.

**Chris Bible is a chemical engineer (B.S., M.S.) currently working as the Engineering and Quality manager for J.M. Huber Corp.'s Etowah, Tenn. facility. He lives in Knoxville, Tenn. with his wife of almost seven years and his 3-year-old son. He has been a homebrewer for about five years and especially enjoys making and drinking stouts and porters.**





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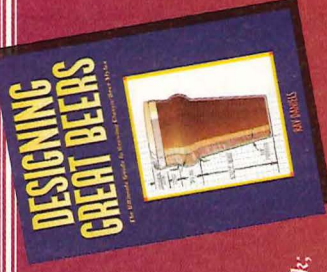
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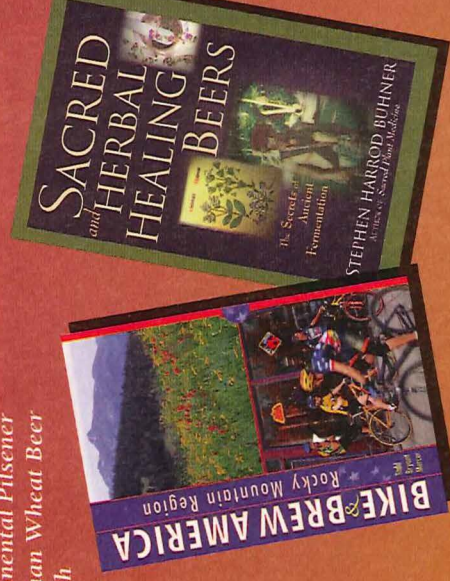


## HOMEBREW RECIPES

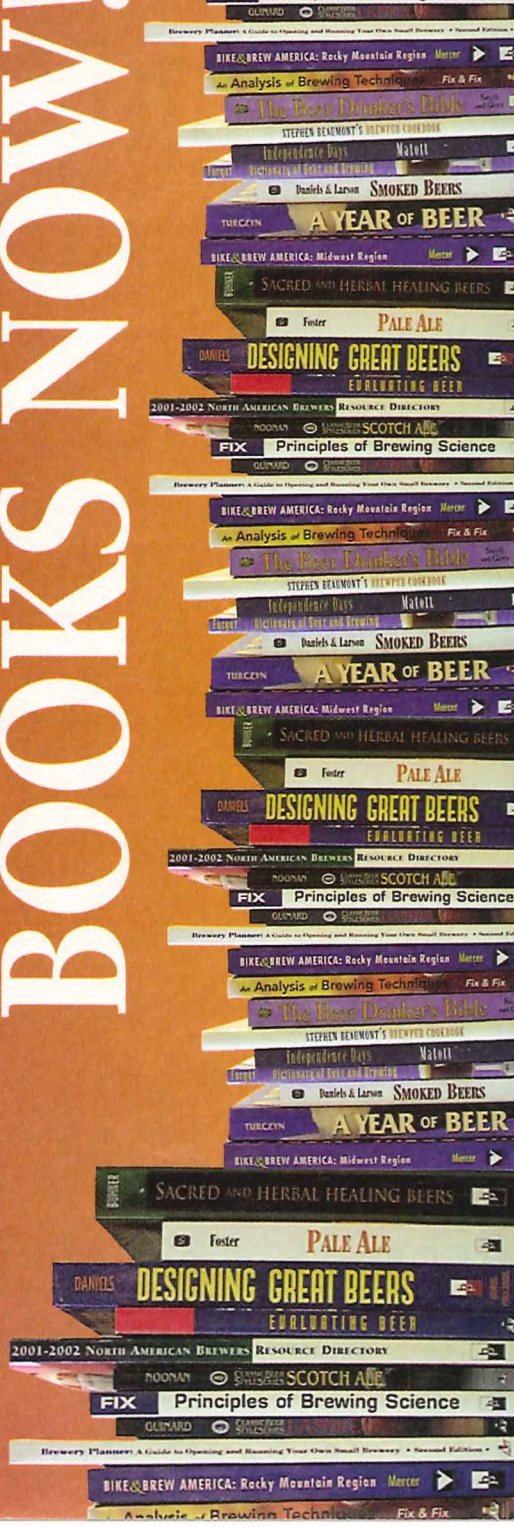
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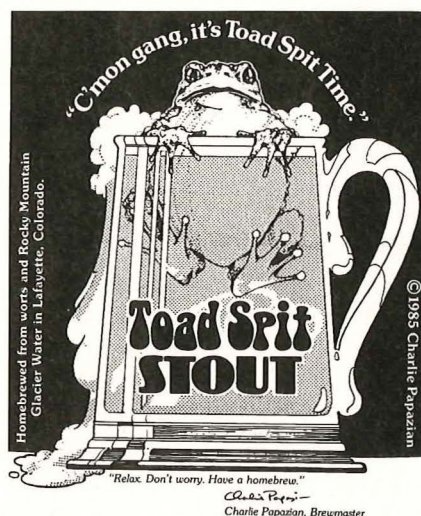




# My Friend Mr. Toad

I wrote the current edition of *The New Complete Joy of Home Brewing* in 1990. It was published in 1991. This was a revision of the 1984 version of the book, *The Complete Joy of Home Brewing*, which was written in 1983. Both were published by Avon Books, which is now a division of Harper Collins. Sales now approach 1,000,000 copies of these Avon editions, but most of you don't know that first I self-published a 40-page version of this work in 1976 as *Joy of Brewing* and revised that in 1980 as an 88-page *The New Revised and More Joy of Brewing*. Both were typewritten and only about 2,000 copies of each were ever printed. These original works were manuals for teaching the several thousand homebrew students who brewed in my kitchen for the 10-year period between 1973 and 1983. I chuckle when I think of the six-page mimeographed (remember mimeographs?) handout I used before the original book was published.

But it was in the summer of 1983, when I studied the available resources and compiled the experiences of, at that time, 13 years of homebrewing and homebrew teaching. It took four summer months of every bit of my spare time to write *The Complete Joy of Home Brewing*. It was a summer when very few friends even knew I was in town. In 1990, I revised the book. Most of the contents remained the same. I did upgrade ingredient information and data, add several new recipes and refine some of the original recipes. The publisher remembered to put an index in the 1991 revised and current edition. (The lack of an index in the original was a major criticism. Even though I had no control over this, I served as a punching bag and received complaints almost daily.) As I wrote the revision, my philosophy in 1990 was "don't mess with a good thing." I knew homebrewers appreciated the format and recipes from the origi-



nal 1984 edition and I wasn't about to "improve" what was working well. I essentially added new information and removed information no longer relevant.

I know; it is the year 2002 and the book is due for an upgrading, but these are tough times for publishers and none have expressed interest—so far.

So what about the beer? Well, I figure over the course of 20 years and the use of nearly 1 million copies of the book, that 1,000,000,000 (that's a billion) gallons of homebrew have been made from *Joy* recipes and variations of *Joy* recipes.

Which recipes are the most popular? The preferences have been quite consistent for two decades. From what people have told me through the years, it seems that the three most popular recipes are Rocky Raccoon's Honey Lager, Toad Spit Stout and Holiday Cheer. Rocky first appeared in the 1980 self-published version. Mr. Toad appeared in the 1984 version, but actually that was a variation of what I called "Kechak Stout" in my own 1980 edition. Holiday Cheer was an imagination during

that hot summer of 1983, handwriting notes and keyboarding on a CPM computer late into the early morning hours.

So recently, I revisited Mr. Toad and his Toadspit Stout and wondered if I would change anything in the recipe in 2002? After all it's been nearly 20 years without revision.

## The Original Recipe for Toad Spit Stout

For 5 U.S. gal (19 L)

- 3.3 lbs (1.5 kg) John Bull hopped dark malt extract syrup
- 4 lbs (1.8 kg) plain dark dried malt extract
- 0.75 lb (340 g) crystal malt
- 0.33 lb (150 g) roasted barley
- 0.33 lb (150 g) black patent malt
- 1.5 oz (42 g) Northern Brewer hops (boiling), 14 HBU (392 MBU)
- 0.5 oz (14 g) Fuggles or Willamette hops (finishing)
- 8 tsp gypsum
- 1-2 packages ale yeast
- 0.75 cup corn sugar or 1.25 cup dried malt extract (for bottling)

- OG: 1.050-1.054 (12.5-13.5 B)
- FG: 1.015-1.019 (4-5 B)

Add the crushed roasted barley, crystal and black patent malts to 1.5 gallons (5.5 L) of cold water. Bring to a boil and remove the grains after five minutes of boiling. Add the malt extracts and boiling hops and continue to boil for 60 minutes. Add the finishing hops for the final 10 minutes of boiling (Guinness-type stout does not have a hop bouquet, but in this recipe it will have a subtle hop flavor). Sparge the hot wort into the fermenter and cold water. Pitch the yeast when cool. Bottle when fermentation is complete.



You should be enjoying Toad Spit Stout within three to four weeks of the day you brewed it.

Toad Spit Stout is immensely popular. One of the most frequent questions I get regarding this recipe is, "Did you really mean to put eight teaspoons of gypsum in the recipe or is that a typo?" For whatever reason, it was a purposeful amount of gypsum in the original recipe. Were I to formulate the recipe today, I would not add that much gypsum. But why mess with success? There are probably many reasons for the success of this recipe, and one of them may be the addition of an inordinate amount of gypsum. No, it is not necessary. Yes, you can put in less gypsum, but I won't guarantee the same results. In fact, the results may be better or may be disappointing. You'll have to split a batch and test the results.

Bringing the grains to a boil and then strain them out? Now I'd recommend a 30-minute steep at 150 °F (65.5 °C) and then remove and sparge the grains. Don't boil the grains.

Ingredients? I might specify the use of English crystal, English roast barley and English black malt. Thin-skinned two-row malt is used in these English malts and the ratio of usable carbohydrates to polyphenolic husk is higher in them than American six-row malt. Perhaps English varieties would produce a smoother stout—after all that's what they use in Ireland and the U.K. Guinness, which is what this recipe attempts to emulate. But then again, maybe it doesn't matter that much—it is the most popular recipe in the book.

There are so many quality hop varieties available today, I can only imagine that homebrewers are using the ones they prefer or that are most accessible. I'm also imagining that hundreds of thousands of gallons of Toad Spit Stout have been made with American Willamette hops, thus personalizing this stout to more of an American-style than a true Irish-type Guinness stout. Well, so be it. My original intentions of mimicking a Guinness were noble. But this fuller version with American overtones has captured the imagination of a majority of homebrew-

#### HOMEBREW BITTERING UNITS (HBUs)

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

#### INTERNATIONAL BITTERNESS UNITS (IBUs)

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

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

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

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

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

ers. I think I taste the same themes in most American-made stouts, too.

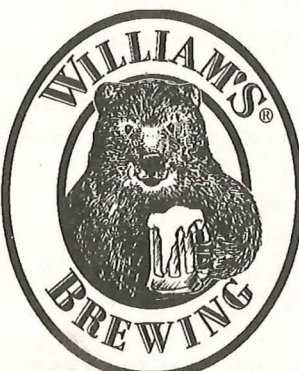
Then there is the yeast. In 1990, access to quality liquid yeast was hard to come by. Now, without any doubt, I would encourage brewers to use a good liquid ale yeast. And if you really are striving for authenticity use an Irish-type stout yeast. You can't do anything but improve your results.

It is my nature to tweak and fiddle, so if I were to brew this one again myself I'd not hesitate to use other U.K.- or Yakima-grown varieties of Goldings and Fuggles. Perhaps Northdown, Wye or Target if an English theme struck my fancy. Perhaps Cascade, Chinook or Centennial varieties if I wanted that ubiquitous citrus personality so popular in America these days.

But if this is all too confusing, you still can't go wrong with the original version of Toad Spit Stout.

Charlie Papazian is the president of the Association of Brewers.





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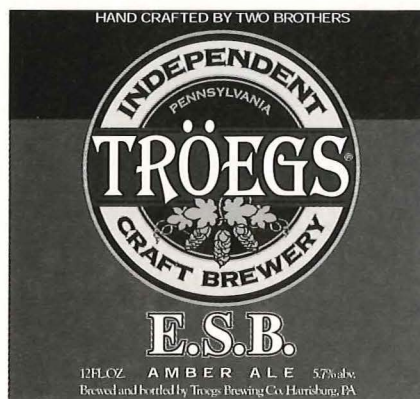
## Troegs ESB

It's great to see old friends do well for themselves, especially in the brewing industry. Chris and John Trogner have done just that. With a thriving 10,000-barrel brewery in Pennsylvania's capital city of Harrisburg, it's hard for me to imagine the days in the mid-1990s when the brothers were just starting out in brewing. They attended brewing schools in England and Chicago and had apprenticeships at one of my alma maters, the Oasis Brewery and Restaurant in Boulder, Colo. But since those days at the "O," when craft brewing was in its heyday, the Trogners have taken their love of European and American brewing traditions, mixed it with sound, careful business sense and turned it into one of the fastest-growing microbreweries in the country.

The name of the brewery, Troegs, comes from the Trogner's old family nickname, Trogs, and from the Flemish word for pub, *Kroeg*. This nod towards the traditional is evident in the brewing methods the brothers use, and is one reason the featured beer in this edition of *Brewers' Favorites* is so good.

John Trogner chose the brewery's ESB as his favorite beer. "Our goal is to brew the beers we love to drink, right?" he says. "Well, this is our favorite." It is also one of the brewery's best sellers, so the local clientele must love it, too. But sometimes introducing a traditionally brewed ale to the unwashed, light lager-swilling masses can require a titanic effort. In fact, Trogner jokes, they sometimes would avoid spelling out "extra special bitter" for that very reason. "People heard the word *bitter* and didn't want to try it," he says. Telling them ESB stood for "extra special beer" was far more palatable for the novice craft beer drinker.

It turns out Troegs ESB has undergone a few permutations through the years to achieve its current quality. The Trogners combine the classic English style and brewing methodology with the their love of Amer-



ican hops and an unusually German grain bill. Trogner said two major changes in how they brew the beer make it what it is today.

First, they use a hopjack, sometimes called a hopback, constructed from a 50-gallon tank. The idea was to put more late-hop character into the bitter. The Trogners use whole Chinook and Willamette hops to not only provide the beer with the intense floral hop aromatics, but also to filter out the trub and hop material when the beer is being transferred. Trogner says that after they began brewing the ESB with the hopjack it was "500 percent better." With such a hoppy beer, they were experiencing huge volume losses as a result of spent hop and trub material left in the kettle after the boil. The hopjack allowed for lower losses, even with the unavoidable absorption by the whole hop cones, practically trub-free wort and the increased aroma, flavor and even bitterness from the late hop contact. The ESB rates at about 65 IBUs, Trogner says, but taking into account the extra hop character from the hopjack, it tastes more like 70 to 75. "We put it at 73 on the Troegs IBU scale," Trogner says, laughing.

The grain bill also changed because of stability concerns. Troegs uses Briess Pilsner malt for the ESB's base, complemented by a surprising 30 percent German Munich malt from Durst Malting. "We wanted a really evi-

dent malt character," Trogner says. This was at one time made up with caramel malts, but Trogner found that the beer aged much better with less caramel and more Munich. "I don't know if this is the case for every brewer, but for us the beer just developed a richer, maltier character with the Munich." The Trogners use a blend of 60°, 80° and 150° L caramel malts, but this makes up no more than 10 percent of the total bill. They round out flavor and texture with small amounts of chocolate and dextrin.

The hopjack is vital to the hop character of this beer. There are a few great hopjacks on the market for homebrewers, some with in-line cooling systems so you can chill the wort simultaneously. You can also set up a large funnel with a sieve and gently rack your hot wort over the hop cones, making sure you don't spread them so thin that they don't provide a good filter bed for the trub. Chill the wort as usual and pitch at about 68° F (20° C) with a good, clean English or American ale strain. Note: you might need an extra kettle with this setup for the chilling vessel.

On to the recipe!

### Troegs ESB Clone

#### For 5 U.S. gal (19 L)

- 6.5 lb (2.95 kg) Briess Pilsner malt
- 3 lb (1.36 kg) Munich malt
- 10 oz (283 g) dextrin malt
- 6 oz (170 g) 60° L crystal malt
- 6 oz (170 g) 90° L crystal malt
- 6 oz (170 g) 150° crystal malt
- 2 oz (57 g) chocolate malt
- 0.5 oz (14 g) Columbus pellet hops, 15% alpha acid (first wort)
- 0.75 oz (21 g) Willamette pellet hops, 5% alpha acid (45 min)
- 0.75 oz (21 g) Willamette pellet hops, 5% alpha acid (30 min)
- 0.75 oz (21 g) (continued on page 60)



**H**omebrewers are a tenacious bunch. Summertime temperatures rarely keep us from our brew kettles for long. Maybe we'll experiment with brews that don't mind warmer fermentation temperatures. Or perhaps we'll succumb to the lure of fermenter-chilling gadgets. Will this be the summer you set up a spare refrigerator to hold your gurgling carboys? Regardless of your approach, I'll bet you're going to brew.

This installment of Winners' Circle features some great recipes to try this summer. After reading Bob Grossman's article on brewing sugars, you may be interested in Kenneth Dodd and Tony Gonzales' "Apple Butter Cyser" featuring muscovado sugar. Both Ken Rhude and Marc Kullberg used candi sugar in their award-winning Belgian-style beers.

If Randy Mosher's fruit beer article has you ready to ferment some of the season's finest, Christopher Dubeau and Steve McKenna offer two completely different takes on the always popular raspberry: a lambic-style ale and a raspberry wheat beer.

Then there's the newest AHA event, Mead Day, to consider. Mark Densel has a deliciously simple traditional mead recipe to help you celebrate the day. You'll be done brewing it before you even break a sweat.

## Traditional Mead



### SILVER MEDAL

#### AHA 2001 NATIONAL HOMEBREW COMPETITION

Mark B. Densel, Oceanside, Calif.

"MWD Traditional"

Traditional Mead

#### Ingredients for 1 U.S. gal (3.97 L)

- 3 lb (1.36 kg) clover honey
- 1 campden tablet
- 1.5 packages Red Star Cote de Blanc dry yeast
- 0.25 tsp (1.25 ml) yeast energizer
- 0.25 tsp (1.25 ml) Irish moss

- Original specific gravity: >1.100
- Final specific gravity: 1.014
- Primary fermentation: 60 days at 68° F (20° C)
- Secondary fermentation: eight months at 68° F (20° C)

#### Brewer's Specifics

Steep honey at 170° F (77° C) for 20 minutes.

#### Judges' Comments

"Good honey flavor that starts out prominently and finishes smoothly. Good alcohol warmth. Very drinkable, balanced mead with medium sweetness.

"Beautiful golden color and excellent clarity. Lots of honey on the nose. Very good balance of acidity and sweetness. Flavors are complex and they linger. Good mouthfeel."

## Cyser



### SILVER MEDAL

#### AHA 2001 NATIONAL HOMEBREW COMPETITION

Kenneth D. Dodd and Tony Gonzales, Cerritos, Calif.

"Apple Butter Cyser"

Cyser (apple melomel)

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

- 12 lb (5.44 kg) orange blossom honey
- 5 gal (19 L) unpasteurized apple juice
- 2 lb (0.9 kg) light dry malt extract
- 5 lb (2.25 kg) raw muscovado sugar
- 2 lb (0.9 kg) spiced apple butter
- Wyeast No. 3347 in starter
- 3 tsp (14.8 ml) di-ammonium phosphate yeast nutrient
- 2 lb (0.9 kg) white raisins, macerated
- 10 pieces cassia bark
- 10 pieces Mexican cinnamon
- 6-12 cloves
- 0.5 tsp (2.5 ml) fresh nutmeg

- Original specific gravity: 1.148
- Final specific gravity: 1.032
- Primary fermentation: two months at 68° F (20° C) in glass
- Secondary fermentation: six months at 68° F (20° C) in glass
- Tertiary fermentation: 11 months at 68° F (20° C) in stainless steel

#### Brewers' specifics

Steep honey, juice, malt extract, sugar and apple butter at 170° F (77° C) for 20 minutes. Use Wyeast 3347 or another alcohol-tolerant strain. Add spices and raisins to secondary fermenter.

#### Judges' comments

"Deep apple, root beer and some honey notes. Has an apple brandy character. Long pleasant finish-nice!"



## Belgian-style Trippel



### SILVER MEDAL

AHA 2001 NATIONAL HOMEBREW COMPETITION

Ken Rhude, Castaic, Calif.

"Belgian-style Trippel"

New Entrant

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

- 14.75 lb (6.7 kg) Belgian pilsener malt
- 4 ounces (110 g) aromatic malt
- 1.5 lb (0.68 kg) Belgian candi sugar
- 1.5 oz (43 g) Styrian Goldings pellet hops, 4% alpha acid (60 min)
- 0.25 oz (7 g) Hallertauer Hersbrucker pellet hops, 3.8% alpha acid (15 min)
- 0.25 oz (7 g) Tettnanger pellet hops, 4.3% alpha acid (15 min)
- 0.5 oz (14 g) Saaz pellet hops, 3.8% alpha acid (5 min)
- 1 tsp (4.9 ml) Irish moss
- Wyeast Trappist High Country liquid yeast in 12-oz starter
- Recultured Chimay Grand Reserve yeast to finish fermentation
- 0.33 cup (71 ml) corn sugar (to prime)
- 0.33 cup (71 ml) candi sugar (to prime)

- Original specific gravity: 1.092
- Final specific gravity: 1.011
- Primary fermentation: 13 days at 70° F (21° C) in glass
- Secondary fermentation: 20 days at 70° F (21° C) in glass

### Brewer's specifics

Protein rest at 120° F (49° C) for one-half hour. Raise temperature to 150° F (66° C), mash for one hour.

### Judges' comments

"Sweet, spicy, fruity with just enough hops to crisp the finish. Can taste the alcohol. Surprisingly light and creamy. Cooler fermentation temperatures might lower perception of alcohol.

"Nice light golden color. Long-lasting head. Alcohol and spice complement malt and esters. Good balance."

## Strong Belgian Ale/ Belgian Strong Dark



### BRONZE MEDAL

AHA 2001 NATIONAL HOMEBREW COMPETITION

"Belgian Strong Ale/Belgian Strong Dark"

Marc Kullberg, Lisle, Ill.

"Brew 81"

Ingredients for 3 U.S. gal (2.84 L)

- 7 lb (3.18 kg) Pilsen/SMC malt
- 0.25 lb (110 g) flaked wheat
- 0.25 lb (110 g) Belgian Special B
- 0.2 lb (74.6 g) chocolate malt
- 0.5 lb (0.23 kg) German light malt
- 0.5 lb (0.23 kg) Belgian aromatic malt
- 1 lb (0.45 kg) Belgian amber candi sugar
- 0.5 oz (14 g) Hallertauer hop pellets, 6.5% alpha acid (60 min)
- 0.5 oz (14 g) Hallertauer hop pellets, 6.5% alpha acid (5 min)
- 0.5 oz (14 g) Saaz hop pellets, 4% alpha acid (2 min)
- White Labs Trappist Culture liquid yeast
- 0.5 cup (118 ml) corn sugar (to prime)

- Original specific gravity: 1.078
- Final specific gravity: 1.014
- Primary fermentation: one month at 65° F (18° C) in glass

### Brewer's specifics

Mash all grains at 150° F (66° C) for one hour. Dissolve candi sugar in mash.

### Judges' comments

"Decent alcohol and fruit aroma. Tight head and appropriate color. Flavor is wonderfully complex and full of esters, yeast and fruit. Mouthfeel is big yet smooth and full of alcohol.

"Nice color and clarity. Flavor features fruity esters and raisins, but enough malt and bitterness to balance. Very nice example of style-sweet without cloying."

## Fruit Lambic-style Ale



### BRONZE MEDAL

AHA 2001 NATIONAL HOMEBREW COMPETITION

Christopher Dubeau, West Boylston, Mass.

"Ram Raspberry"

Fruit Lambic-style Ale

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

- 6 lb (2.72 kg) pale two-row malt
- 3 lb (1.36 kg) unmalted wheat
- 0.5 lb (0.23 kg) crystal malt
- 12 lb (5.44 kg) raspberries
- 4 cans Dole frozen Country Raspberry juice
- 2 oz (57 g) stale Cascade hops, stale 0% alpha acid (60 min)
- 2 oz (57 g) stale Cascade hops, stale 0% alpha acid (dry hop)
- Wyeast No. 1084 Irish ale liquid yeast in an 8-oz starter
- Wyeast Lambic Blend liquid yeast in 8-oz starter
- 1 cup (237 ml) dextrose (to prime)

- Original specific gravity: 1.056
- Final specific gravity: unknown
- Primary fermentation: 28 days at 65° F (18° C) in glass
- Secondary fermentation: 90 days at 65° F (18° C) in glass

### Brewer's specifics

Mash grains at 140° F (60° C) for one hour. Steep crystal malt for 20 minutes at 120° F (49° C).

### Judges' comments

"Wonderful fruit aroma. Underlying Brettanomyces notes. Some musty and cheesy notes, too. Nice raspberry sweetness and flavor. Balanced by tart acidity and a clean finish. Could be more carbonated.

"Very sour up front. Tart and fresh tasting. All the dryness is balanced with raspberries. Excellent effort on this!"

(continued on page 61)



## Become an American Homebrewers Association Sponsor!



I ask you to consider taking the extra step of becoming an AHA sponsor. American Homebrewers Association sponsorship allows the AHA to do more organizing to promote the hobby of homebrewing to the not-yet-brewing public and continue to run outstanding programs for homebrewers. AHA sponsorship is a way for you to show your commitment and give something back to the hobby of homebrewing besides your time, effort and tasty brews. The strength of the AHA is you.

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Here is a list of new Lifetime Members and  
Lifetime members we omitted on previous lists:

|                                           |                                                 |                                                                                      |
|-------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------------------|
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| Mike Davey<br>Newbury, OH                 |                                                 |                                                                                      |



## Great American Beer Festival® Comes of Age

Founded in 1982, the Great American Beer Festival comes of age this year with its 21<sup>st</sup> exposition of American beers. That first festival featured just 20 breweries, 35 beers and 700 beer enthusiasts, but this year's event is expected to showcase 1,200 beers from 300 breweries catering to a crowd of more than 22,000. The 21st Birthday Celebration will be held at the Colorado Convention Center in Denver, Oct. 3-5, 2002.

The GABF not only showcases the best in American brewing, it also provides consumers with one-of-a-kind opportunity to learn more about beer and the brewing process, one ounce at a time. Throughout the hall, educational booths and video displays will showcase brewing industry history, help beer lovers understand the brewing process, teach consumers how to brew beer at home and remind attendees to drink responsibly.

The GABF is not just about sampling beer. The Festival's professional judging panel evaluates attending beers and awards gold, silver and bronze medals recognized around the world as symbols of brewing excellence. This year, beers will compete for medals in more than 50 different style categories. These awards are among the most coveted in the industry and heralded by the winning brewers in their national advertising.

## American Brewers Win Kudos Overseas

Perhaps the world's longest running professional beer competition, The Brewing

Industry International Awards recently announced their winners for 2002. Founded in 1886 and sometimes known as The Burton Beer Competitions, this year's contest included 683 entries from around the world in eight categories such as strong beers; milds, darks and porters; international ales and lagers, cask ales and keg beers. Beers from outside the United Kingdom comprised 35.3 percent of the entries and won nearly half the awards.

American beers garnered 17 awards, the best showing of any country beside the host, including sweeps in the international ales with 5.2-6.9 percent abv and specialty fruit beer categories. Alaskan ESB (international ale category/bottles and cans) was the only American brew to be awarded Champion status.

Other U.S. breweries that won multiple awards include Pete's Brewing Co., which took two gold medals for Pete's Wicked Helles Lager and Pete's Strawberry Blonde; Samuel Adams, which garnered a total of four bronze medals; Deschutes Brewing Co., earning a gold and a silver for their Mirror Pond Pale Ale and Black Butte Porter; and New Glarus Brewing Co., which took both the silver and the bronze in the fruit beer category with Wisconsin Belgian Red and Raspberry Tart. Single award winners included BridgePort's Ebenezer Ale, silver; Shiner Summer Stock, bronze; and Rogue Shakespeare Stout, bronze.

## Get Rolling—Tour de Fat 2002

This year New Belgium Brewing Co. expanded its quintessential event, the Tour de Fat, to make 12 stops around the Western United States. Traveling in their vintage 1963 Airstream, dubbed "Beerstream," the New Belgium dream team began the spring tour east of the Rockies

with stops in Kansas, Nebraska, Missouri and Texas. At midsummer, New Belgium celebrates the Tour de Fat on their home turf in Ft. Collins, Colo., before beginning the second leg of the tour.

Tour de Fat activities include morning fun bike rides for all types of bikes and riders (online registration at [www.newbelgium.com](http://www.newbelgium.com)), live music from local talent and several tasty selections from New Belgium's family portfolio. Also, expect to find good food, a vintage bike show and all new wacky bike games, including the mini-cruiser barrel race, the rim toss, paperboy challenge, ghost ride and slow ride.

All event proceeds help fund local trail advocacy and alternative transportation non-profit organizations in each town the Tour de Fat visits. For detailed information on this "Ballyhoo of Bikes and Beer" visit [www.newbelgium.com](http://www.newbelgium.com) or call 1-888-NBB-4044.

## 2002 Tour de Fat Dates:

- July 20 Fort Collins, Colo.  
(New Belgium Brewing Co.)
- Aug. 10 Eugene, Ore. (Alton-Baker Park)
- Aug. 17 Boise, Idaho (Camel's Back Park)
- Aug. 24 Seattle, Wash.  
(Seattle's Fremont neighborhood)
- Sept. 21 Missoula, Mont. (Bonner Park)
- Sept. 28 Boulder, Colo. (Civic Plaza)
- Oct. 5 Durango, Colo. (Main Street)
- Oct. 13 Flagstaff, Ariz. (Wheeler Park)

## Pyramid Scheme

As part of their overall strategy to build their brand with a local retail presence in various markets, Pyramid Breweries Inc. is opening its fourth Pyramid Alehouse at the corner of 11th and K Streets, one block from the state Capitol, in Sacramento, Calif.





The 9,100-square-foot Sacramento location set in the first floor of a historic building will house a brewery and 295-seat restaurant. The Ale-house will produce specialty draft beer for on-premise consumption and retail distribution in the surrounding area.

You can also find Pyramid properties in Seattle, Wash., Berkeley, Calif., and in Walnut Creek, Calif. For more information visit [www.PyramidBrew.com](http://www.PyramidBrew.com).

#### Grab a Troeg of Sunshine!

Troegs Sunshine Pils is the latest release from John and Chris Troegner of Troegs Brewing Co., a small artesian brewery in Harrisburg, Pa., that distributes throughout the Mid-Atlantic region. The new beer is brewed in the spirit of the "Old World"

European pilseners. The beer will be distributed in 12-ounce bottles and free samples are available during brewery tours every Saturday at 2 p.m. Visit [www.troegs.com](http://www.troegs.com) for more information.

#### Fish Brewing Co. Spawns Pilsener

Those who visit Olympia, Wash., this summer can sample another European-style pilsener, this one from the Fish Brewing Co. Brewed with Briess pilsener, crystal, Carapils and Munich malts, and hopped with Czech Saaz, German Tradition and Spalt hops, the beer comes in at 40 IBUs and 4.0 percent abv.

This Friesian Pilsener (pronounced "free-shun") is a Great American Beer Festival silver-medal winner. This summer seasonal beer resembles the pilseners brewed in the Friesland region of Northern Germany, where much more emphasis is put on hop flavor, than the pilseners of Southern Germany.

#### Sam Adams Sees a Different Light

Using his proven taste-panel approach, Boston Beer Co. founder Jim Koch recently launched his newest product—light beer. The new product represents Sam Adams' re-entry into the light-beer market. For those who don't remember, the company marketed Samuel Adams Lightship beer in the late 1980s and early 1990s.

Koch launched the product with a blind tasting of five light beers including Bud Light, Coors Light, Corona Light and Amstel Light against his new Samuel Adams Light. (The creative brand names in this category are great, aren't they?) Judges included aficionados, novices and media representatives and, of course, the Sam Adams product won.

Some will be excited because Sam Adams Light has just 124 calories and 4.2 percent abv, but others will be more enthused that its distribution is so far limited to major Arizona markets.

*Thank you to all attendees, organizers and sponsors.  
You made this a successful event.*

24th Annual American Homebrewers Association's

## National Homebrewers Conference



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We look forward to next year's conference!

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## Shortcuts

Nothing really substitutes for lots of perfectly ripe, fresh fruit, handled with skill and wisdom. But however much we may strive for this ideal, reality often interferes. So products that offer something close to the real thing, if cleverly used, can often save the day—or the beer.

Concentrated natural fruit flavorings are available in the homebrew/wine market. Added alone to an appropriate base they can produce an identifiable, if sometimes less-than-profound, beer—the kind that often pops up at brewpubs. Similarly, fruit syrups offer the open-and-dump freedom that eliminates the mess of dealing with fruit, but do have shortcomings, particularly a “cooked” or “jammy” character. This isn’t necessarily bad, but it’s not the same as real, fresh fruit. You can also use dried fruit, but it too contributes a different flavor profile than fresh.

Even with all that equivocation, these convenience fruit products can be useful in several ways. For some fruits—lychee, passionfruit and guanabana, for example—this is really the only practical way to use them for those of us stationed in the Northern Hemisphere. You can also use extracts and syrups to add missing elements that for whatever reason don’t show up in the beer after the real fruit fermentation. Peaches are notoriously petulant, so a little apricot or peach extract can come to the rescue, adding a lush fruity character that is virtually impossible to get any other way. The extracts, which have no sugar, can be added at bottling or kegging to spruce up a lack-luster beer.

You can also use syrups and extracts to add depth and complexity. Try adding a little cassis to raspberry beer, for example. Syrups can add a splash of color; the concentrated extracts are generally colorless.

## Be Adventurous

There are lots of interesting ingredients out there, especially if you have access to ethnic markets. Some are available fresh; many are available as syrups, concentrates or pasteurized juices. Here’s a run-down of some frequently overlooked fruits.

**Cassis/blackcurrant.** Classic deep berry flavors. Low acidity, but some tannins. Adds color and complexity to cherry beers.

**Crabapple.** Only available as fresh fruit. Considerably acidic and tannic. Extremely nice in meads, adds balance and structure. In a sparkling mead, they can provide a kind of *blanc de noirs* champagne elegance.

Small (golf ball-size) cultivated or tiny (marble-sized) ornamental varieties abound, although you’ll have to pick the tiny ones yourself. Juice presses out around 1.080,



much higher than ordinary apple juice, and with a lot more color as well. How about a crabapple pils?

**Guanabana.** Also known as a *soursop*, this tropical American fruit is usually found as a lightly pulpy, milky-looking beverage, typically canned. It has a refreshing, indefinite taste, and is best in very delicate beers such as white beers or weizens.

**Lychee.** Prized, delicate Asian fruit with complex, perfumy aromas. Flesh is translucent

and colorless. Often quite expensive. Very limited season when fresh. Usually available whole in cans, sometimes as a syrup. Useful for adding complexity, perhaps to strawberries, peaches, apricots or blueberries.

**Mango.** The succulent flavor of the sunny tropics. Somewhat peachy, but brighter. Available fresh all year round. Also available as juice and nectar. Fairly pulpy. The smaller, all-yellow variety has a more subtle, refined character. Would add depth and complexity to peach beers.

**Passionfruit.** Very intense, single-minded aromatic character, comparable in power to raspberry, but altogether different. Available whole, but expensive and difficult to deal with. The best source I’ve found is concentrated syrup available at Asian markets. Light golden color. Makes a great fruit soda, too.

**Pomegranate.** Delicately scented old-world fruit with a light red color and fairly high acidity. Available fresh in season, also as syrup and a highly cooked “molasses” in Middle Eastern markets. Great for cooking, by the way.

**Quince.** Related to apples and pears, but with wilder, spicier aromas. The fruit is unpalatable raw because of its tannins and acidity, but these can be useful qualities in beer and mead.

## Patience, Patience, More Patience

Like wine, fruit beer requires some time to reach a mature, integrated flavor. I know this is contrary to the homebrew maxim, “The beer is ready when you’ve drunk the last bottle,” but you’ve really got to exercise some restraint here. I like to leave the beer on the fruit for at least a month, and sometimes as long as six.

Once bottled, fruit beer sometimes improves over several years. I’ve had some that were delightful at 10. So just keep brewing them until you have more than you know what to do with, and just lay ‘em down.

**Randy Mosher brews beer, builds brewing equipment, barbecues ribs and pursues all manner of creative activities from his brew-lair in Chicago.**



### Brewers Favorites (from page 49)

Willamette pellet hops, 5% alpha acid (15 min)

0.75 oz (21 g) Chinook whole hops (hopjack)

0.75 oz (21 g) Willamette whole hops (hopjack)

Liquid English or American ale yeast

Mash grains at 153° F (67° F) for 60 minutes. Boil wort, run hot wort over the whole hops in hopjack. Be careful to minimize wort flow and aeration.

- Boil time: 90 min

- OG: 1.065 (15.5° P)
- Pitching temperature: 68° F (20° C)
- Fermentation temperature: 68° F (20° C)
- IBUs: 65 at 75 percent efficiency

**Extract version:** Substitute 8 lb (3.6 kg) amber malt syrup for the Munich, Pilsner and dextrin malts. Steep crystal malt in 160° F (71° C) water for 30 minutes, dissolve malt syrup and bring to a boil.

**Amahl Turczyn is an experienced home and professional brewer and a masterful maker of meads.**

### Dear Zymurgy (from page 12)

was funny that you had a big article on making mild ales the month *after* you had the Mild Ale Club Only Competition. Printing that article a month before the Competition would have been a lot more helpful to your members.

Perhaps you could coincide articles with upcoming AHA events. I seem to have gotten away from my main reason for writing. We all get excited about the competitions and it is very frustrating have to wait weeks after the event to find out who won.

Thanks for listening,

Dale,  
of "Dale and Anita"

Dale,

*While we agree that participants should get results more quickly, they should probably be coming via some route other than Zymurgy. After all, we only publish every other month and copy has to be final about six weeks before an issue hits the mail. As a result, the potential time between when results come to Boulder (another variable) and when we get them to you varies from a best case of six weeks to a worst case of 14 weeks (eight weeks between issues and six weeks for production). Given that, the listing in Zymurgy should serve only as the "official report" of the event rather than the notification for participants.*

*Most issues of Zymurgy revolve around a specific theme (brewing with fruit this time) and articles matching that theme are assigned about six months before the issue appears. We do our best to include topical/current event content in each issue, but sometimes we fall short. Hopefully the quality of the content we do run is enough to keep you going most of the time.*

*As for good guidance on making mild, you could try the Brewers Publications' Classic Style Series book Mild Ale. It has been available since 1999.*

—Editor

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Winners Circle (from page 51)

## Fruit Beer



### BRONZE MEDAL

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Steve McKenna, Naperville, Ill.

"Raspberry Wheat 76"

#### Fruit Beer

#### Ingredients for 4 U.S. gal (15 L)

- 4.8 lb (2.18 kg) Schreier pilsener malt
- 2.4 lb (1.08 kg) DWC wheat
- 0.33 lb (150 g) DWC Cara-Vienna
- 8 oz (226 g) DWC Cara-Pils
- 4.75 lb (2.15 kg) frozen mixed raspberries and black raspberries (in secondary)
- 1 oz (28 g) Liberty pellet hops, 3.8% alpha acid (60 min)
- 0.5 oz (14 g) Liberty pellet hops, 3.8% alpha acid (10 min)
- 1 tsp (4.9 ml) Irish moss
- White Labs WLP008 East Coast Ale liquid yeast in starter
- 4 oz (125 g) corn sugar (to prime)

- Original specific gravity: 1.048
- Final specific gravity: 1.007
- Primary fermentation: six days at 64 °F (18 °C) in glass
- Secondary fermentation: 32 days at 65 °F (18 °C) in glass

#### Brewer's specifics

Mash grains for 1.5 hours at 149° F, then 45 minutes at 158° F (70° C). Blanch frozen berries briefly in boiling water then add to the empty secondary fermenter. Rack beer onto them from the primary.

#### Judges' comments

"Nice berry aroma. No hops present. Pink head, red beer, good clarity. Lightly tart; low sweetness, bitterness and astringency. Fruity flavor. Mouthfeel is crisp and tart, smooth and dry. Excellent job on this beer!"

"Raspberry aroma good, no malt or hop aroma. Good raspberry flavor; hop and malt undetectable under raspberry-OK. Light refreshing carbonation. Very refreshing summer beer. Nice balance. Not too tart or sweet."

Dena Nishek learned to homebrew while serving as editor of *Zymurgy* in the 1990s. 🍷

#### Homebrew Clubs (from page 14)

to prepare for the week-long celebration of beer and brewing, but said it was all worth it. The local homebrewers who chose not to participate, by Chuck's account, "missed out on a once-in-a-lifetime opportunity."

But this is more than just a story of homebrewers working together. It is a story of the larger Cleveland-area brewing community. All the events of that week featured amateur and professional brewers working together and for one another. To me, that kind of camaraderie is crucial to the survival of beer culture in this country.

Oh, and did I mention: Damn that was a lot of fun! Thanks to all the Cleveland-area brewers, both amateur and professional, for putting on a great show.

#### Point Restructuring for Club Competitions and NHC

At the request of several AHA members, the AHA Board Competitions Committee and I have worked out a new point system for the AHA National Homebrew Competition (NHC) and Club-Only Competitions.

The goal was to make small- and medium-sized clubs more competitive with the larger clubs in the quest for the AHA Homebrew Club of the Year Award.

Points awarded for placing first, second or third in either round of the NHC will change from six, three and one to six, four and two, respectively, to better represent the achievement of earning a second or third place in the competition. Also, points for Club-Only Competitions will be double the value of points earned in the NHC, so a first place will be worth 12 points, a second place worth eight points and a third place worth four points.

The new point structure goes into effect at the beginning of the August-to-May Club-Only Competition cycle. The first competition with the new point structure is the American Lager competition scheduled for Aug. 17. The change will not affect the 2002 NHC. After next year's NHC, the Competitions Committee will evaluate the point system to see if further changes are necessary.

Gary Glass is the project coordinator for the American Homebrewers Association. 🍷

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#### American Lager AHA Club-Only Competition

The August AHA Club-Only Competition is American Lager. David Houseman and Beer Unlimited Zany Zymurgists (BUZZ) of Chester County, Pa., will host the event.

The style for the competition is American lager, BJCP category 1. One entry of two bottles is accepted per AHA registered homebrew club. Entries require a \$5 check made out to AHA, an entry/recipe form and bottle I.D. forms. More information on the Club-Only Competitions and forms are available at [www.beertown.org/AHA/Clubs/clubcomp.htm](http://www.beertown.org/AHA/Clubs/clubcomp.htm). Please send your entry to:

#### AHA COC

c/o David Houseman  
372 Harshaw Dr.  
Chester Springs, PA 19425

Entries are due by Aug. 10, 2002. Judging is slated for Aug. 17, 2002. If you have questions or are interested in judging, email [housemanfam@earthlink.net](mailto:housemanfam@earthlink.net).



## Sugar (from page 39)

### References and Sources for Further Reading

*A Sip Through Time: A Collection of Old Brewing Recipes* by Cindy Renfrow

*Belgian Ale* by Pierre Rajotte

*The Home Brewer's Companion* by Charlie Papazian

*Old British Beers and How to Make Them* by Dr. John Harrison

*Sacred and Herbal Healing Beers* by Stephen Buhner

*Sugar from Farm to Market* by Winifred Hammond

The Sugar Association Inc., [www.sugar.org](http://www.sugar.org)  
Nancy Rigberg offers a variety of sugars;  
contact [homesweet@voicenet.com](mailto:homesweet@voicenet.com).

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**Bob Grossman, a homebrewer for more than 10 years, specializes in meads, British and Belgian ales, and recreating historic recipes with unusual ingredients. He enjoys brewing herbal beers with plants from his organic garden. As librarian for The Philadelphia Orchestra for more than 20 years, he has explored many local beers and pubs during annual domestic and international tours to Europe, the Far East and South America. You might notice his contributions to the hist-brewing and mead lovers digests.**

## Recipes (from page 39)

nonalcoholic soda, use two pounds of sugar and force carbonate in a keg. To ferment an alcoholic beer, use five pounds of sugar and ale yeast. Experiment with light, dark or Pils-lonchio sugars.

### Real Root Beer

#### Ingredients for Five U.S. Gallons (19 L)

- 1 qt (946 ml) maple syrup or honey
- 36 oz (1.065 L) mild or light molasses
- 2 oz (56 g) ginger root
- 2 oz (56 g) wintergreen or spearmint leaves
- 1 vanilla bean
- 1 oz (28 g) burdock root
- 3/4 oz (21 g) star anise
- 1 oz (28 g) cinnamon stick
- 2 oz (56 g) sarsaparilla
- 2 oz (56 g) birch bark
- 1 oz (28 g) licorice root
- 2 oz (56 g) sassafras

Boil all ingredients except spearmint in a gallon of water for five minutes. Add spearmint, cool and strain. Add water to taste and force carbonate in a keg for a great nonalcoholic soda. If you don't have kegging equipment, don't add water and keep this homemade root beer extract refrigerated. Add a bit to seltzer to make soda. Experiment to get your perfect root beer flavor.

## Homebrew & Beyond (from page 10)

been cheaper to fill it with beer to begin with?"

**Sin No. 7: Blissful Arrogance** Servers who would gladly return a faulty wine balk when confronted with a beer that won't pass muster. Instead, they'll insist that it is just fine, despite a vinegary aroma and rancid taste. "Everyone else is drinking it," they'll insist.

Worse, those who have learned a bit about beer will classify your rejection as preference. "I guess you just don't like hops," opined a server recently.

When I try to explain the specific flavors that mark the beer as unpalatable, I get an impatient glare. "That's the way the beer always tastes," they say, continuing with the cruelest statement of all: "It's not like wine."

Indeed it's not, I admit to myself. If it were, both brewers and their beer would be getting more respect.

**For most of the year, Ray Daniels annoys bartenders and waitresses in Chicago.**

## Extract Experiments (from page 18)

### Conclusion

Although we brewed a wide variety of beer styles with many different types of yeast for this experiment, the fruity, cidery aftertaste tended to be the common denominator, presumably from the rice portion of the Northwestern Light malt extract.

That said, however, most of the beers were very drinkable and worth brewing. The rice syrup in the extract appears to be extremely fermentable, giving good attenuation and producing beers with a "dry" character. (Including the author's Grape Nuts Pilsner, which had a seemingly high finishing gravity of 1.018.) Northwestern Light makes an extremely bright beer without having to use fining agents. This malt extract is definitely worth checking out. If you haven't tried it yet, consider making a light summertime or session beer, or use it to lighten the body of a bigger beer.

**Dana Johnson, a KROC member since 1995, has been brewing since 1989. He hasn't made the jump to all-grain and is the last remaining KROC brewer still making beer exclusively from malt extract. Dana lives in Broomfield, Colo., with his wife and three children.**

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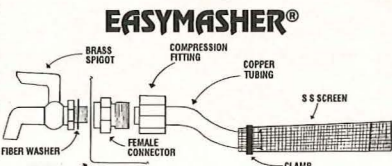


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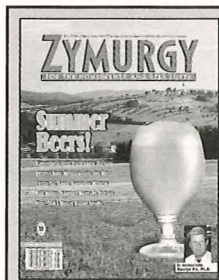
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BY PHIL WILCOX

# Introducing the Hop Rocket: Yer Basic Homebrew Utility Speedster



Sometimes the ideas inspired by homebrewing (or homebrew) come in funny shapes, and so it is with the Hop Rocket. Jeff Gier of the Prison City Brewers got this wacky idea one year at Big Brew to make a go-cart out of a beer keg. And when the beer wore off, he remembered the idea and actually followed through. The pictures you see here of Jeff demonstrating his little beer machine show just where crazy homebrew ideas can land you.

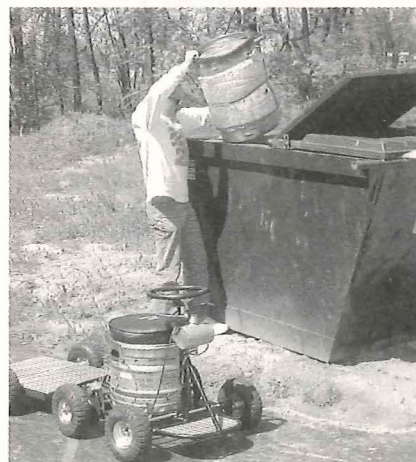
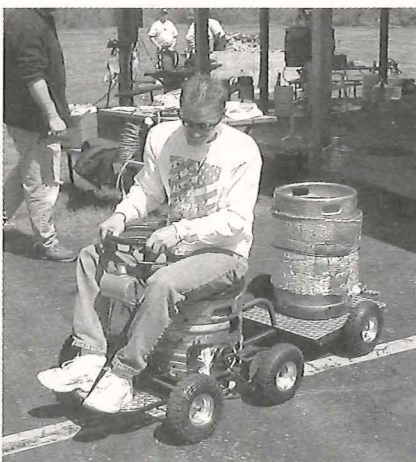
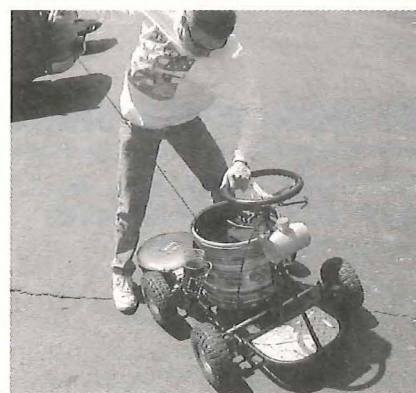
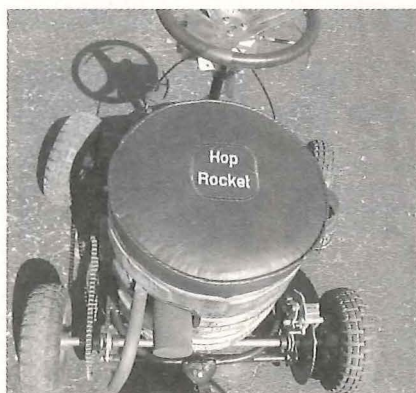
Jeff says the Hop Rocket scoots along from the power of a five-horsepower Briggs and Stratton lawnmower engine with a modified carburetor. To rev up the speed, he removed the governor and shaved down the heads so this little go-cart will dispense a snappy 35 mph. Other features include a homemade intake manifold and air manifold, rolled aluminium gas tank and six-inch disk brakes. The motor runs on 100 octane low-lead airplane fuel. (Jeff's still working on a way to run it off of something derived from beer.)

And how does all this relate to brewing? Well Jeff built a little trailer that the Prison City Brewers use to transport a lauter tun full of spent grains over to the dumpster during Big Brew. Now, you know there are a bunch of professional brewers out there who would kill for such a machine!

Phil Wilcox is the warden of the Prison City Brewers.



The Hop Rocket runs on jet fuel rather than beer and whips out a snappy 35 mph.



The Hop Rocket has its practical uses. Here, builder Jeff Gier uses it to ease the laborious process of hauling the spent grains to the dumpster.

PHOTOS BY PHIL WILCOX





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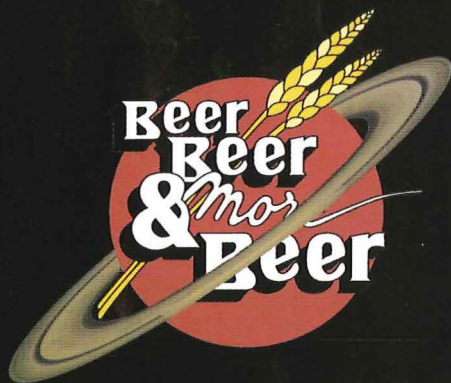
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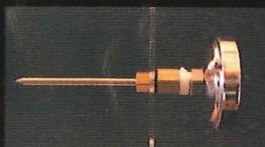


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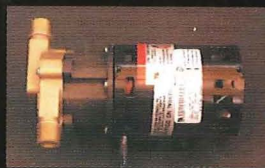
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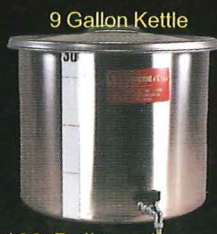
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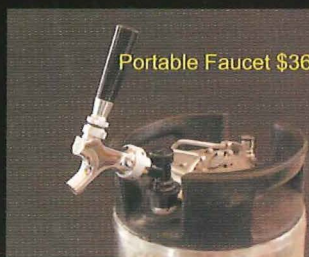
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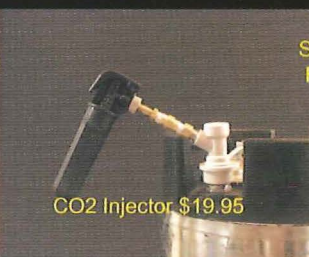


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