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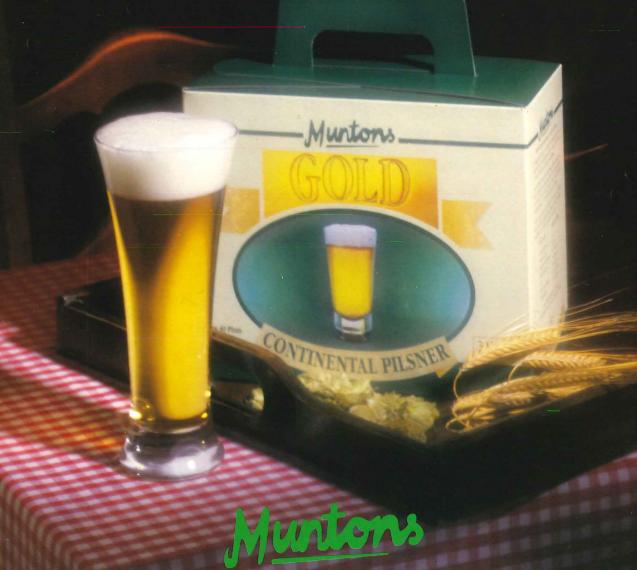




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THE AMERICAN HOMEBREWERS ASSOCIATION MISSION STATEMENT

To promote public awareness and appreciation of the quality and variety of beer through education, research and the collection and dissemination of information; to serve as a forum for the technological and cross-cultural aspects of the art of brewing; and to encourage responsible use of beer as an alcohol-containing beverage Printing by EBSCO Media, Birmingham, Alabama.

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ZYMURGY

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



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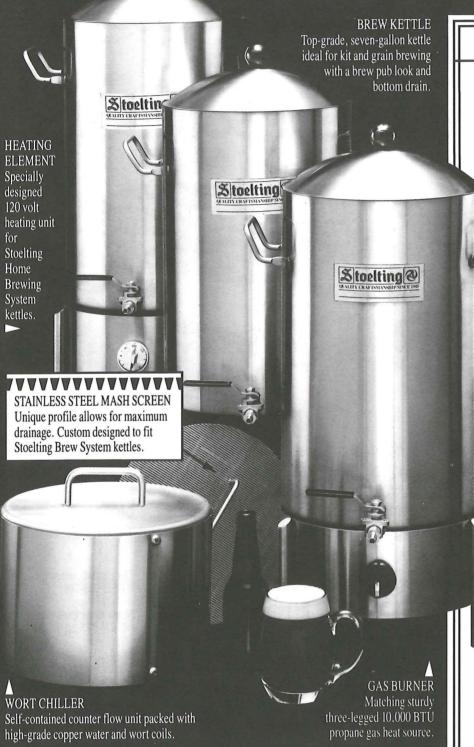
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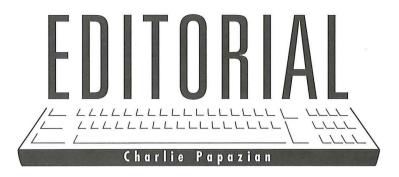
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Savor the Flavor — Responsibly

buse of beer as an alcoholic beverage is not about how much you drink, not about whether alcohol is a drug, not about the alleged corruption of children, not about religious righteousness, not about who the "educator" should be, not about where money comes from or who it goes to, not about taxes and not about control.

The difference between use and abuse of beer is understanding how you drink and how much you know about yourself. It is about what you drink, when you drink, why you drink. It's about individuality.

It's about the message that says: Beer is a part of our culture. It always has been and always will be. More than 5,000 years of beer and people bear this out. It can be part of a quality lifestyle. When abused it can wreck a lifestyle. Individually and as a community the way we use beer as an alcoholic beverage affects us all.

But just as beer is simply, naturally and individually a brewed and fermented product of water, malt, hops and yeast, the effect that beer consumption has on our community very simply begins with the individual. Sadly, our world these days seems not to have very

much faith in the intelligence and decision-making ability of the individual. Many governments, religious groups, educators, politicians and various special interest groups provide very little real information or facts. Rather, their distorted "facts" are usually predicatable and preceded with a doctrine that usually goes something like: "Thou shalt do this."

There are no singular "truths" about beer and consumption that are applicable to everyone. Is beer consumption healthy or unhealthy? Should we drink no beer or can we drink one or two beers in an hour, with or without food before driving? Can we have a beer or two a day while pregnant? These are but a few controversial issues where facts are randomly offered to suit an interest.

Sadly, our individual circumstances are hardly considered. What's right for one person is not necessarily correct for another.

The Association of Brewers (of which the American Homebrewers Association is a division) believes that as adults we should have the freedom and privilege to make our own choices regarding the consumption of beer as an alcohol-containing beverage. Furthermore, with this freedom and privilege comes the responsibility to be informed about the qualities of beer and the effects of alcohol. Individuals must be accountable for their actions and decisions.

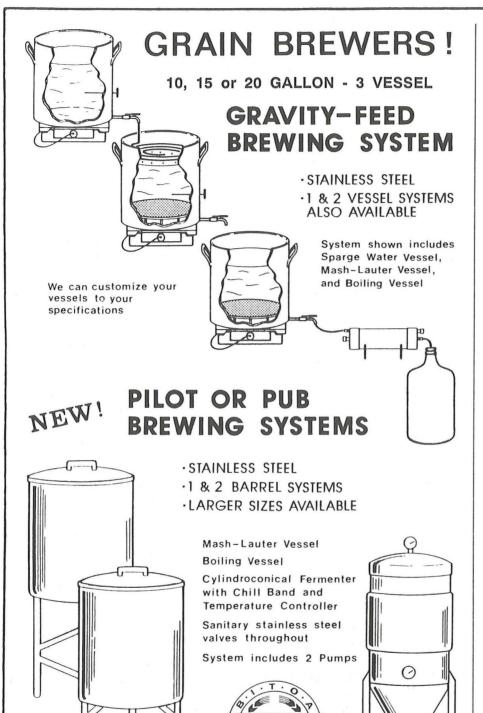
The Association recently adopted an Individual Responsibility Policy that reads:

Savor the Flavor — Responsibly

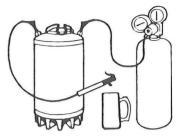
The Association of Brewers proactively encourages responsible use of beer as an alcohol-containing beverage. To help individuals make responsible, informed decisions regarding the consumption of beer, the Association will continue to educate consumers and disseminate information about beer as an alcohol-containing beverage.

Identified by the slogan, "Savor the Flavor — Responsibly," the commitment of the Association is to provide the general public, the beer enthusiast and the brewing community with informational tools and educational materials to inform the American public about the responsible consumption of beer.

Let's give the individual a chance. The American Homebrewers Association encourages all of its members to "Savor the Flavor — Responsibly" and help inform others about the responsible enjoyment of beer as an alcoholic beverage. Positive changes can occur. They already have.



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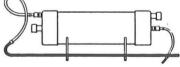
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Sign for the Brew

Dear zymurgy,

Hold the presses! News flash! the Grateful Deaf Homebrew Society, along with the American Homebrewers Association, is announcing the First National Deaf Homebrew Competition, open to all deaf and hearing-impaired amateur homebrewers. Please add this to your listings, as we would like to contact other hearing-impaired homebrewers who might read your magazine.

The Grateful Deaf Homebrew Society is a new organization consisting of hearing-impaired individuals who use sign language as a means of communication while pursuing the art and hobby of homebrewing. All monies, after expenses, received from the First National Deaf Homebrew Competition will be donated to Camp Taloali, near Stayton, Ore., for hearing-impaired children.

For entry forms and rules please write to the Grateful Deaf Homebrew Society, c/o Ken Fisher, 5025 S.W. Pasadena No. 2, Portland, OR 97219, or call (503) 245-1795.

Sincerely, Ken Fisher, President Grateful Deaf Homebrew Society Portland, Oregon

Graetz Brewing

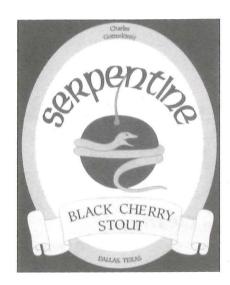
Dear zymurgy,

Homebrewers are an adventuresome lot. If we were not, I suppose we would just drink American light lager and shut up about it. It is inevitable that we attempt to sail unchartered waters, go boldly where no one has gone before and brew beer we

can't get locally.

At least this has been my experience. I find it difficult to fine tune my pale ale recipe probably because I want to brew a German Weissbier or a lambic or a rauchbier instead.

Imagine my excitement when I stumbled on a beer described as "very rare" in Fred Eckhardt's book, *The Essentials of Beer Style* (Fred Eckhardt Associates, 1989). I like things that are very rare. Details of graetzer beer



are sketchy and no commercial examples are given. It looked like uncharted waters to me. I got out my calculator and proceeded to scratch out a recipe following Fred's short-but-to-the-point description.

Graetz is a smoked wheat beer of low original gravity and aggressively hopped. The proportions are two-thirds smoked, highly roasted wheat malt to one-third malted barley and 50 International Bittering Units of German hops.

Intriguing? I thought so. I decided to brew a five-gallon batch. Here's my recipe:

- 5 pounds smoked wheat malt
- 3 pounds two-row barley
- 1 1/2 ounces Perle hops 6.1 percent alpha-acid (60 minutes) or 40 IBU
- ounce Hallertauer 3.5 percent alpha-acid (30 minutes) or 5 IBU
- ounce Tettnanger 3.6 percent alpha-acid (30 minutes) or 5 IBU No. 1056 American ale yeast starter
- I teaspoon gypsum
- I tablespoon Irish moss
- · OG: 1.034
- · FG: 1.012

I smoked the wheat malt in my Weber kettle over hickory chips for 90 minutes, then roasted it in the oven at 425 degrees F for 30 minutes, turning periodically. I infusion mashed at 156 degrees F (69 degrees C) for 90 minutes and mashed out at 170 degres F (76.5 degrees C) for 15 minutes to stop all conversion. I then sparged with five gallons of mashing liquor at 170 degrees F (76.5 degrees C) and boiled with hops added at intervals for 60 minutes.

After three days of primary fermentation in glass, I racked into a glass secondary to finish for four days, then kegged.

The result is a light golden wheat ale with a rocky white head. As for flavor, this is not your average light beer. The first sip, unsurprisingly, says, "Hops!" But, as the feeling begins to return to your tongue you pick up the subtle flavor of the smoked wheat.

This beer is very refreshing and thirst quenching. It's also low in alcohol, so you can finish mowing lawn or shoveling snow.

If I were to change this recipe at all, I might cut back the hops a little to balance more with the smoked malt. Next time! Or

maybe I'll just make that sour mash beer or tune up that pale ale.

Randal Boyd Modesto. California

Advice and Consent

Dear zymurgy,

Thank you and the AHA! About a year ago I started homebrewing from kits and am currently fermenting my first all-grain batch of ale (Integralli from James Page Brewery in Minnesota). There is no way I could have done so without the excellent advice contained in The New Complete Joy of Home Brewing (Avon, 1991). I have always had a "thing" for beer, now I'm glad to see I am not alone. I finally know what I want to be when I grow up! Of course I'll probably have to wait until I retire from the Army, but I want to open a microbrewery or brewpub in the Southeast. The publications and information offered by the Institute for Brewing Studies and Brewers Publications will be a great asset. Keep it up!

The New Complete Joy mentions Bamberg Rauchbier. I'm glad to see you tasted it at the Schlenderla because that is the original home of the style. After we left Bamberg in 1984, I thought I would never taste rauchbier again. Now I can make it! Although my experimental extract-smoked grain version fell a little short of the mark. I was ecstatic. Incidentally, the local G.I. "legend" about the rauchbier was that they had a fire in the brewery back in 1678 and the fire damaged the stored grains. Being good, frugal Germans they weren't about to waste the burnt grain so they brewed with it anyway and liked it (or at least pretended to for business' sake!). I can't vouch for the accuracy of the story but it goes good with "Nach ein rauchbier, bitte!" at the Schlenderla or, more accurately, Brauerei Heller.

Again, thanks for the benefit of your experience, Charlie, and for the support of the AHA!

Relaxing as we speak, Rick Gordon Fort Benning, Georgia



Classical Gas and Other Theories from Space

Dear zymurgy,

I can't let the secular humanist version of chemistry presented in Eddie Brian's article from *zymurgy* Spring 1993 (Vol. 16, No. I), "Basic Organic Chemistry for Brewers," go uncontested.

If Mr. Brian had been studying traditional values instead of believing in those godless weisenheimers at the liberal colleges, he'd know there are really only four elements: earth, air, fire and water. In addition to these, though, there are the incorporeal substances. In brewing, the most important of these are phlogiston and ether.

Phlogiston is a weightless, odorless, colorless fluid that pervades all material objects. (So is ether, for that matter.) The amount of phlogiston any given substance contains determines how hot it is. My research has determined that the basic function of yeast in brewing is nothing less than *the conversion of phlogiston to ether*.

This explains, among other things, the observed differences between lager and ale yeasts. Lager yeasts typically function in an environment with less native phlogiston. Among other things, false humanistic chemistry is unable to explain why there is always the same amount of liquid in your secondary fermenter as there was when you started. If a corporeal substance were being lost, you'd expect there to be less, right? But if one incorporeal substance is being changed into another, no change would be seen, which is what happens in reality. Also, you will notice that boiling the wort longer makes a stronger beer. Obviously, a long boil equals more residual phlogiston.

Yeast is able to do this by focusing planetary quintessences into the wort, to effect this transmutation. This has nothing to do with metabolizing carbon dioxide, no matter what the evolutionists say. Instead, as Hermes Trismestigus is alleged to have said, "This is real gas music from Jupiter!"

Yours very truly, Steven A. Gustafson New Albany, Indiana

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GOLD for 12 l.

- Starting specific gravity: 1.053.
- Alcohol content: 5,5%.
- A real deluxe pilsner type of beer with a far better taste than the normal Lagers. Also comparable with Scandinavian deluxe-beers.

ABBEY BEER for 91.

- Specific gravity: 1.070
- Alcohol content: 8%.
- One of the Belgian specialty beers: the Abbey beer with vinous character due to its high alcohol content. Strong dark reddish brown beer with long keeping properties.
 Full flavoured taste with a malt aroma. Very thick and long lasting head (lacy).

AMBIORIX for 15 l.

- Starting specific gravity: 1.047
- Alcohol content: 6,5%.
- Amber beer with a red copper tint. Slightly acidic palate at first but with a sweet aftertaste. Comparable with the well known beer of Roeselare.

DIABOLO for 9 I.

- Starting specific gravity: 1.071
- Alcohol content: 8%.
- Belgian specialty beer: golden colour beer with a thick and long lasting head (lacy). Characteristic aroma of devil type Belgian beers, soft palate with a slightly sweet aftertaste. Diabolo also compares with triple Belgian beers (Tripple).

KRIEK for 12 l.

- Starting specific gravity: 1.053
- Alcohol content: 5,5%.
- Kriek is the best known of the famous Belgian fruit-beers. Kriek is made by macerating cherries in beer. A slightly acidic and sweet aromatic beer with a red copper tint. Each kit contains pure cherry juice of at least 3 kg of cherries!

OLD FLEMISH BROWN for 12 I.

- Starting specific gravity: 1.060
- Alcohol content: 6 %.
- A dark brown beer with a red copper tint and a slight liquorice aftertaste that also compares with the Dutch 'Bock'-beers. In Belgium Oud Bruin (Flemish for Old Brown) type beers are strong aromatic beers with long keeping properties.

FRAMBOISE for 12 l.

- Starting specific gravity: 1.053
- Alcohol content: 5,5%
- BREWFERM framboise or raspberry beer, is a Belgian specialty. Together with the BREWFERM kriek this Framboise is the only fruit-beer-kit available in the world. Furthermore, these kits contain NO artificial flavors! Each kit has an equivalent of 2 kilo of raspberries. This framboise beer has a very delicate aroma and is ideal as a refreshing summer-beer or as a surprising apéritif!

CHRISTMAS for 7 I.

- Starting specific gravity: 1.065
- -Alcohol content : 6%.
- Dark strong heavy-bodied Belgian beer, sweeter than Abbey style beers. Strong malt flavor and aroma. Christmas type Belgian beers (brewed with top-fermenting yeast) are beers with long keeping properties which get better and better after long maturation period. Thick and lacy head with extraordinary head retention.

KING for 91.

- Starting specific gravity: 1.070
- Alcohol content: 8%.
- An amber beer with vinous character due to its high alcohol content. Sweeter and lighter in colour than Abbey beer. A real beer for dessert with a fantastic taste!

recipes

SCOTCH for 9 I.

- Starting specific gravity: 1.050
- Alcohol content: 5%.
- Brewferm Scotch tastes like traditional scotch ales. Halfway between Christmas and Abbey style beers, this Scotch is a mouthfull and malt-accented beer. Good keeping properties.

WHEATBEER for 15 l.

- Starting specific gravity: 1.053
- alcohol content: 5 %
- This is the first wheatbeer kit available! It is very similar to the well known Belgian 'Witbieren': very pale, honey-type, opaline colour, low alcohol content, sweet smell and a slightly acidic taste. An old recipe using oat flakes and a secret herb mixture.

GRAND CRU for 9 I.

- Starting specific gravity: 1.075
- Alcohol content: 8%
- The latest addition to the BREWFERM beerkit range. Gold opaline coloured, with strong flavor of grains and even bread. Very little hop aroma. Very mouthfull and even slightly fruit taste with a sweet aftertaste. Also these kits contain wheat malt and a special herb mixture.

TRIPLE for 9 I.

- Starting specific gravity: 1.075
- Alcohol content: 8%
- Triple is a well known deep golden colored Belgian specialty. Due to its high malt contents it has a very pleasant aroma and taste. Mouthful, full bodied and even a bit herbaceous. High alcohol content.



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NEWS

Karen Barela

Volunteers — The Adventure

Thanks and praise, cheers and acknowledgement, gratitude and appreciation! The 15th Annual AHA 1993 National Homebrew Competition was a huge success thanks to the great volunteers who helped make it happen. At each of the four beer sites, teams of three key volunteers organized their location by unpacking entries, entering data into a computer, gathering judges and stewards, arranging the actual judging and handling hundreds of details involved in the world's largest homebrew competition. The site volunteers in San Francisco were Russ Wigglesworth, Brook Ostrom and Martin Lodahl. Special thanks go to Phil Rogers and the Anchor Brewing Co. In Chicago, site volunteers were Ray Daniels, Steve Hamburg and Tim Norris. Special thanks go to John and Greg Hall and the Goose Island Brewing Co. In Denver, Steve Dempsey, Glen Colon-Bonet and Brian Walter were site volunteers. Special thanks go to Russ Schehrer and the Wynkoop Brewing Co. Site volunteers in Woodstock, N.Y., were Keith Symonds, Bob Gorman and Jay Hersh. Extra special thanks go to John Nat Collins and the Woodstock Brewing Co. Saké entries were judged in Portland, Ore., thanks to organizers Fred Eckhardt and Jeff Frane. Special thanks go to John De Benedetti and F.H. Steinbart Co. Cider entries were judged in Boston, thanks to organizer Paul Correnty. Special thanks go to Steve Sleser and the Boston Beer Works. The AHA, on behalf of all of the National Competition entrants. thanks all of these adventurous volunteers and sponsors for their time, effort and dedication to this event. We also thank all of the stewards, judges and other site volunteers who pitched in to make it happen. The record-breaking 2,689 entries were diligently processed and judged because of you!

Overhaul

In our continuing effort to keep all of our services up to date with the evolving home-brewing community and current information, we spent 18 months giving the Sanctioned Competition Program a complete overhaul. We took advice from many of the organizer reports we've received over the years and compiled new information, revised the forms, guidelines and much of the support information, added new features and packaged it all in a fully redesigned kit.

The AHA sanctions competitions to establish standards and procedures that assure homebrewers their beers are handled and judged in the best possible fashion, and that the results are accurate, meaningful and educational. Why apply for AHA sanctioning?

- To provide a state-of-the-art educational resource for staff and entrants.
- To maintain valid standards of judging and achievable levels of excellence.
- To receive help in running a quality competition.
- · To help keep your costs and time com-

mitment low.

To reduce hassles and time-consuming mistakes.

Any individual, club, shop or brewery with the desire, enthusiasm and dedication to promote quality beer and brewing by organizing a competition should apply for AHA sanctioning. The total cost is \$40 for AHA members, \$70 for non-members. For more information and an application contact James Spence at the AHA, PO Box 1679, Boulder, CO 80306-1679, (303) 447-0816, FAX: (303) 447-2825.

The BICP Knows

Did you know 85 percent of the people who take the BJCP exam pass on the first try? Did you know there are more than I,000 people in the BJCP program? Did you know the BJCP offered more than 29 exams all around the country in 1992? Did you know BJCP stands for the Beer Judge Certification Program?

The BJCP is a unique judging program sponsored by the American Homebrewers Association and the Home Wine and Beer Trade Association (HWBTA). The program looks for individuals with a thorough understanding of the brewing process, the flavor components of beer and the historical development of world beer styles. BJCP

Karen Barela has been named AHA president by Association of Brewers President Charlie Papazian. She has been AHA vice president since September 1991.

"Karen has been the driving force behind the AHA and its growth, through her tireless dedication to members and promotion of homebrewing throughout the country," says Papazian.

Papazian's role will be to continue leading the four AOB divisions (American Homebrewers Association, Brewers Publications, Institute for Brewing Studies and the Great American Beer FestivalSM) through his philosophy and direct contact with the brewing community.

How Good Is Your BEER?

• You become accustomed to your own 'house character' and cannot objectively judge your own beer. • Your freeloading buddies and relatives will tell you that anything is OK! • Your beer club members develop prejudices toward particular tastes and styles. • The score sheets from competitions are often inaccurate, illegible, or incomplete.

QUALITATIVE SENSORY ANALYSIS

is now available to the home brewer. Our trained taste panels will analyze your beer just as we do for commercial breweries. The panel includes professional brewery scientists and a National judge. You receive:

- · A standard AHA score sheet.
- A detailed professional flavor analysis sheet giving the intensity of 20 flavor components.
- Our assessment of how close you came to the intended beer style.
- Advice on changes to your brewing technique.

The cost for this service is \$10 per sample, prepaid. Send one bottle with the intended style and brewing details to:

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BJCP judges in Denver evaluate first-round entries of the 1993 National Homebrew Competition.

judges are sought for their expertise to judge in AHA and HWBTA sanctioned competitions, in the AHA National Homebrew Competition and by every homebrewer within shouting distance for a qualified opinion of his or her homebrew. Did you know that you can improve your brewing by becoming a BJCP judge? Give it a try! For more information contact James Spence, BJCP administrator, PO Box 1679, Boulder, CO 80306-1679 (303) 447-0816, FAX: (303) 447-2825.

Free Information!

As a member of the AHA you have access to free beer and brewing information anytime you need it. We have 26 pieces of free information — pamphlets, brochures, article reprints and flyers on everything you ever wanted to know about beer, brewing and related topics. Check out How to Brew Your First Batch or How to Teach a Homebrew Class or our complete Outline for Intermediate Brewing. Maybe you need a chart, The Zymurgist's Guide to Hops, or How to Use Specialty Malts with Malt Extract Conversions or a list of Additives Allowed in Beers Brewed in the United States. You also can obtain pamphlets about our new Individual Responsibility Program which you can use to educate your friends and local community groups. Take advantage of your AHA membership and get the information you need! Check out the order form in the Beer Enthusiast Catalog or contact our customer service department.

Welcome to the AOB

The Association of Brewers welcomes Lori Tullberg, AOB marketing director; Kathryn Pagura, marketing assistant; and Bob Pease, customer service manager. We

Renewals, Networks and Timing

There are several changes taking place at the American Homebrewers Association and in the Association of Brewers. While many AHA members have been frustrated by our renewal series, we have been frustrated by computer systems that clearly are no longer capable of serving an organization of 18,000 members. So we have invested in a more powerful computer system and are installing software that will integrate and centralize the Association of Brewers data needs. This changeover will allow us to serve you in ways never before possible. We also are redesigning the renewal series based on input from members to better fit your needs. We are excited about these changes and are looking forward to implementing them in the next 12 months. Please bear with us during these changes and contact us with problems.

director of the Institute. Also welcomed are Lori Tullberg, AOB marketing director and Bob Pease, customer service manager. We encourage our members to contact these new team members for their various areas of expertise. The American Homebrewers Association is one of four divisions of the Association of Brewers. The other three divisions are the Great American Beer FestivalsM, Brewers Publications and the Institute for Brewing Studies. Each division has its own staff members and shares the Association of Brewers support departments that include customer service, marketing, production and administration. Overall, the AOB has 32 full-time employees who work out of one office and warehouse in Boulder, Colo. And remember, if you are in the Boulder area please stop in and say hello.

Get to the Fest

One of the many great benefits of being an AHA member is the opportunity to attend the Great American Beer Festival[™] Members-

Only Tasting. In its third year, the GABF[™] Members-Only Tasting is a private tasting offered only to members of the AHA, the Institute for Brewing Studies, the media and participating brewers. Leave the throng of the general public behind and sample some of the more than 800 beers from 200 breweries with the most knowledgeable and enthusiastic beer lovers and brewers in the country. This is your chance to relax, not worry and have a fest beer. The GABF takes place Oct.8 and 9 in Denver. The Members-Only Tasting is Saturday, Oct. 9, from 2 to 5 p.m. Attendance requires proof of AHA or IBS membership and a ticket stub from the GABF.

For more information, call or write the Association of Brewers, PO Box 1679, Boulder, CO 80306-1679, (303) 447-0126, FAX (303) 447-2825.

Beer Treks

In April, several staff members from the Association of Brewers attended Brew Bayou, the 1993 National Microbrewers and Pubbrewers

Conference and Trade Show in New Orleans. This was the largest Conference ever sponsored by the Institute for Brewing Studies, with a record-breaking 681 in attendance. Staff members included Charlie Papazian, American Homebrewers Association president; Karen Barela, American Homebrewers Association president; Linda Starck, zymurgy and The New Brewer advertising manager; Elizabeth Gold. zymurgy editor-in-chief and director of Brewers Publications; Lori Tullberg, Association of Brewers marketing director; Nancy Johnson, registrar; Jeff Mendel, outgoing director of the Institute for Brewing Studies; and David Edgar, Institute for Brewing Studies assistant director. On his way to the Brew Bayou, Papazian stopped off in Pensacola, Fla., to attend a gathering of homebrewers from Alabama, Mississippi, Georgia and Florida at McGuire's Irish Pub and Brewery, Barela and Starck attended the Home Wine and Beer Trade Association's International Conference in Victoria, B.C., April 30 through May 2 and met with members of the Royal Canadian Malt Patrol homebrew club. In May, Papazian attended the National Restaurant Association Convention in

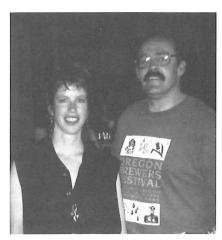
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At the American Homebrew Association's First-Round National Homebrew Competition are Karen Barela, President of the American Homebrewers Association and Ken Fisher of The Grateful Deaf Homebrew Society.

Chicago, where he was surprised to meet many homebrewing professional chefs and hundreds of homebrewers who are in the restaurant and/or pub business. While in Chicago, Papazian met with members of the Chicago Beer

Society homebrew club. In mid-June, he traveled to Tucson for the American Society of Brewing Chemist's Convention and to meet local homebrewers in the area.

Papazian continued on to the Great British Beer Festival in England where he participated as a judge. From Nov. 7 through IO Papazian will be in Southern California for the Master Brewers Association of the Americas convention and to visit with homebrewers and micro/pubbrewers in the San Diego area.

BrewStorm '94

We expect homebrewers to take Denver by storm June 23 through 26 as the AHA holds its 16th Annual National Homebrewers Conference at the Hyatt Hotel in downtown Denver. The dates were chosen to coincide with the Colorado Brewers Festival, an outdoor public festival in Old Towne Fort Collins that features more than 25 Colorado breweries and their selected beers. The Homebrewers Conference is a one-of-a-kind event and one of the best services the AHA offers. Take advantage of this opportunity to improve your

homebrew by attending seminars and events with some of the most clever and well-known brewers, professionals and homebrewers, in the world. Take advantage of this opportunity to visit our Mile High City, view the Rocky Mountains and enjoy the altitude. Take advantage of this opportunity to taste some of the best beers that exist. We guarantee you'll have fun. Get caught in the storm!

Did You Hear About ...

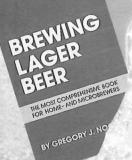
zymurgy welcomes ideas, outlines, proposals or manuscripts covering all levels of brewing from beginner and intermediate to advanced/technical on the subjects of beer, cider, mead, saké and brewing. All submissions will be carefully considered. Also remember to send us your beer news. We want to know about any news items on beer that appear in your local media. Direct zymurgy article inquires to Elizabeth Gold, editor-in-chief, and direct beer news to Karen Barela, AHA president at the American Homebrewers Association, PO Box 1679, Boulder, CO 80306-1679.



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Brewers Publications PO Box 1679 Boulder, CO 80306-1679 (303) 447-0816 FAX (303) 447-2825 Call or write for a free catalog.

CALENDAR

SEPTEMBER

- Colorado State Fair, Pueblo, Colo. Entry deadline is Aug. 19. Call the Colorado State Fair at (719) 561-8484.
- Santa Cruz County Fair Homebrew Competition, AHA Sanctioned Competition, Watsonville, Calif. Entry deadline is Aug. 28. Contact Keith Smock at (408) 496-4856.
- Sonoma County Harvest Fair Homebrew Competition, AHA
 Sanctioned Competition, Santa Rosa, Calif. Entry deadline is Aug.
 30. Contact Norman Dickenson at (707) 523-1565.
- Topsfield Fair Home Brew Competition, HWBTA Sanctioned Competition, Topsfield, Mass. Entry deadline is Sept. 3. Contact August Faulstich at (508) 927-2983.
- **17-19** Beer Camp, Oldenberg Brewery, Fort Mitchell, Ky. Call (800) 426-384l.
- **24-26** Great Northwest Microbrewery Invitational, Seattle, Wash. Contact Michael Nemirow at (206) 232-2982.
- Renaissance Pleasure Faire Elizabethan Homebrewing Competition, Novato, Calif. Entry deadline is Sept. 4. Contact Liz Mitchell at (4I5) 892-0937.
- Summertime Brews Open Competition, AHA Sanctioned Competition, Ridgecrest, Calif. Entry deadline is Sept. 15. Contact Bruce Garlinger at (619) 378-3021.

28-

- Oct. 2 Mid-South Fair Homebrew Competition, AHA Sanctioned Competition, Memphis, Tenn. Contact Sue Cook at (901) 274-8800.
- The Fifth Annual Trub Open, AHA Sanctioned Competition, Durham, N.C. Contact Scott Oglesby at (919) 361-2286.

OCTOBER

- 1-3 Minnesota Brew Fest, AHA Sanctioned Competition, sponsored by Sherlock's Home Restaurant, Pub and Brewery, Minnetonka, Minn. Entry deadline is Sept. 25. Contact John Desharnais at (612) 844-1382
- Second Annual Dominion Cup Open/State Fair of Virginia Competition, AHA Sanctioned Competition, Richmond, Va. Contact Alan Williamson at (804) 231-1359.
- Best of Fest, AHA Club-Only Sanctioned Competition. Entry deadline is Oct. 4. Contact James Spence at the AHA, (303) 447-0816.
- **8-9** The Great American Beer Festival™ XII, Denver, Colo. Call the GABF information line (303) 447-0126.
- **15-16** Dixie Cup, **AHA Sanctioned Competition**, Houston, Texas. Entry deadline is Oct. 9. Contact Andy Thomas at (7l3) 954-6322.
- Northern New England Regional Homebrew Competition, AHA Sanctioned Competition, South Portland, Maine. Entry deadline is Oct. 9. Contact Bill Giffin at (207) 737-2015.
- Second Annual DLB Homebrew Competition, AHA Sanctioned Competition, Westlake, Ohio. Entry deadline is Oct. 9. Contact Pete Wilson at (2l6) 937-6594.
- The Taste of the Great Lakes™, AHA Sanctioned Competition, Frankenmuth, Mich. Entry deadline is Oct. II. Contact Jeff Hervert at (517) 652-3445.

23 Second Annual CAMRA B.C. Homebrewing Competition, AHA Sanctioned Competition, Victoria, B.C. Entry deadline is Oct. 16. Contact Colin Williamson at (604) 387-9080.

NOVEMBER

- 6 Third Annual Novembeerfest, Kirkland, Wash. Details to be announced.
- Dulles Regional Brewing Society Capitol District Open, AHA Sanctioned Competition, Fairfax, Va. Entry deadline is Nov. I. Contact Fred Hardy at (703) 378-0329.
- Second Annual Spooky Brew Review, Chicago, Ill. Entry deadline is Oct. 30. Contact Steve Hamburg at (3)(2) 878-0177.
- **12-13** Hop Barley and the Ale'rs Reggale and Dredhop, Boulder, Colo. Entry deadline is Nov. 5. Contact Dan Brainard (303) 972-4034.

DECEMBER

- Ambrosia Adventure, **AHA Sanctioned Competition**, Boulder, Colo. Entry deadline is Nov. 20. Contact Susanne Price at (303) 442-9III
- Poignant Porter, AHA Club-Only Sanctioned Competition. Entry deadline is Dec. 6. Contact James Spence at the AHA, (303) 447-0816

1994 January

- First National Deaf Homebrew Competition, AHA Sanctioned Competition, Portland, Ore. Entry deadline is Jan. 8. Call the Grateful Deaf Homebrew Society at (503) 245-1795.
- 24 Hail to Ale, AHA Club-Only Sanctioned Competition. Entry deadline is Jan. 24. Contact James Spence at the AHA, (303) 447-0816.

APRIL

10-13 The Institute for Brewing Studies National Microbrewers and Pubbrewers Conference and Trade Show, Portland, Ore. Call the IBS at (303) 447-0816.

29-

May 8 1994 AHA National Homebrew Competition first-round judging. Entry deadline is April 4-15. Call the AHA at (303) 447-0816.

MAY

- 7 National Homebrew Day. Call the AHA at (303) 447-0816.
- **19-22** HWBTA International Conference, Brighton, England. Contact Dee Roberson at (813) 685-4261.

JUNE

- **22-25** American Homebrewers Association National Homebrewers Conference, BrewStorm '94, Denver, Colo. Call the AHA at (303) 447-0816.
- **25-26** Colorado Brewers Festival, Fort Collins, Colo. Call the Fort Collins Downtown Business Association at (303) 484-6500.

To list events, send information to zymurgy Calendar of Events. Competition organizers wishing to apply for AHA Sanctioning must do so at least two months before the event. To be listed in zymurgy Winter 1993, information must be received by Oct. 19. Contact Karen Barela at (303) 447-0816, FAX (303) 447-2825, PO Box 1679, Boulder, CO 80306-1679.

American Homebrewers Association 1993 National Homebrew Competition Winners



BEST OF SHOW

HOMEBREWER OF THE YEAR

Sponsored by Munton & Fison, England Paddy Giffen-Cotati, Calif.

"Kilts on Fire"

Smoked Beer

Round-trip travel and accommodations have been awarded to the Homebrewer of the Year to visit the Great American Beer Festival ™ XII in Denver, Colo., Oct. 8 and 9, 1993.

*NINKASI AWARD (HIGH-POINT HOMEBREWER)

Sponsored by Pete's Brewing Co., Palo Alto, Calif. Walter Dobrowney—Saskatoon, Sask., Canada One of the Ninkasi winner's beers will be brewed by Pete's Brewing Co., as the first Pete's Wicked Winter Beer. The Ninkasi winner also receives name recognition on every bottle of Wicked Winter, a two-week course at the Siebel Institute of Technology in Chicago plus travel and accommodations to the inaugural brewing of Wicked Winter.

MEADMAKER OF THE YEAR

Sponsored by the Home Wine and Beer Trade

Walter Dobrowney-Saskatoon, Sask., Canada "Amber Glow" Still Mead

CIDERMAKER OF THE YEAR

Sponsored by Lyon's Brewery of Dublin, Dublin,

Gabriel Ostriker—Somerville, Mass. "Still #1" Still Cider

SAKÉMAKER OF THE YEAR

Sponsored by Hakusan Saké, Napa, Calif. Jim Long—Sacramento, Calif.

HOMEBREW CLUB HIGH-POINT TROPHY

Sponsored by Homebrew Headquarters, Dallas, Texas

Sonoma Beerocrats—Santa Rosa,

Sonoma County, Calif.
The Boston Wort Processors—Boston, Mass.

Hop Barley and The Ale'rs-Boulder,

ENTRIES BY CATEGORY

1) BARLEY WINE—90 ENTRIES Sponsored by EDME Ltd., England

Ray Call-Stockton, Calif. "Romulin Ale"

Chuck Boyce-Cincinnati, Ohio "Boobs Barley Wine"

3rd: Bill Clawson-Diamond Springs, Calif. "Bill's Best"

2) BELGIAN-STYLE SPECIALTY—169 ENTRIES

Sponsored by Manneken-Brussel Imports, Austin, Texas

Belgian Strong Ale Brian Bliss—Dallas, Texas "Ester the Molester"

Trippel Tony Babinec—Flossmoor, III. "Flossmoor Trippel"

Belgian Ale Phil Markowski-Norwalk, Conn. "Thelonliest Monk (Abbey Single)

3) BROWN ALES-106 ENTRIES

Sponsored by Premier Malt Products, Grosse Pointe, Mich.

English Mild Douglas Brown-Redondo Beach, Calif.

American Brown Jim Dilldine—Craig, Colo.
"Cedar Mountain Brown Ale"

American Brown John M. Roberts-Jamaica Plain, Mass. "Wicked Brown"

4) ENGLISH STYLE PALE ALE—163 ENTRIES

Sponsored by Wynkoop Brewing Co., Denver, Colo.

1st: India Pale Ale

Kelly Dunham—Pacifica, Calif.
"Dances With Humulus Lupulus"
Classic English Pale Ale
Russell Levitt—Bloomington, Ind.
"Indelible Pale Ale"

India Pale Ale Matt Hussey & Casey Lott—Portland, Ore. "Welsh Hat Gathering IPA"

5) AMERICAN STYLE ALE—160 ENTRIES

Sponsored by Northwestern Extract Co., Brookfield, Wis.

American Wheat Jack H. Denny—Lenexa, Kan. "Great Wheat"

American Pale Ale Mike and Dina Kraft—Austin, Texas "Piranha's Tale Pale Ale

American Pale Ale Daniel R. Bell-Grass Valley, Calif. "#15 Pale Ale"

6) ENGLISH BITTER-101 ENTRIES

Sponsored by The Brewery, Postdam, N.Y. 1st: English Special

Donna Lynn and Brian F. Johnson-Palo Alto, Calif. "Baby's Beat Better"

English Extra Special Byron Burch—Santa Rosa, Calif. "Pale Ale in the Third Tone"

English Special Steve Klover—Thornton, Colo. "Red Mountain Ale"

7) SCOTTISH ALE—45 ENTRIES

Sponsored by Something's Brewing, Burlington, Vt.

Scottish Heavy James E. Edgins—Highlands Ranch, Colo.

Scottish Heavy
Ted Andersen—Petaluma, Calif. "John Barleycorn's"

Scottish Light Jay Ankeney—Manhattan Beach, Calif. "39th Street Scots Ale"

8) PORTER-172 ENTRIES

Sponsored by The Cellar, Seattle, Wash.
1st: Robust Porter

Marvin Crippen-Seattle, Wash. 'Fiery Apparel Porter'

Robúst Porter Scott Keohane-Carlisle, Mass. 'Carol's Porter"

Robust Porter Joel Rosen and Nancy Simon—Hermosa Beach, Calif.
"Partial Mash Porter"

9) ENGLISH AND SCOTTISH STRONG ALE-**73 ENTRIES**

Sponsored by Wine and Hop Shop, Denver, Colo.

1st: Strong "Scotch" Ale Ray Call—Stockton, Calif. "Mason is Wee Heavy" 2nd: English Old Ale/Strong Ale

Mike Schaefer-Wauwatosa, Wis. "Big Bottom"

English Old Ale/Strong Ale Rick Garvin—Arlington, Va.
"Garvin's Own Old Ale"

10) STOUT-193 ENTRIES

Sponsored by Alternative Garden Supply, Chicago, III.
1st: Foreign Style

David and Melinda Brockington—Seattle. Wash.

"New Stout II"
2nd: Sweet Stout
Chris Stamp—Rock Stream, N.Y. "Barley Sandwich"

Foreign Style Mike Rego—Amherst, N.H.
"New Year's Day Stout"

11) BOCK-151 ENTRIES

Sponsored by Yakima Valley Hop Growers,

Ron Kribbs and Rick Skillman-Naples, Fla.

2nd:

Fia.
"S-K Trubulator"
Doppelbock
Bob Tullmann—Pine Mtn. Club, Calif.
"Tullmannator Doppelbock"

Helles (light) bock Alan Barnes-Nashville, Tenn. "Super Bowl Bock"

12) BAVARIAN DARK-65 ENTRIES

Sponsored by Crosby and Baker, Westport, Mass.

Munich Dunkel Jay Hersh—Medford, Mass. "Drunkel"

Schwarzbier Tom Altenbach—Tracy, Calif.
"Alt'n Bock Black"

Munich Dunkel Dennis Kinvig—Toronto, Ontario, Canada "Crossways Dunkel Brau"

13) DORTMUND/EXPORT—40 ENTRIES
Sponsored by Briess Malting Co., Chilton, Wis.
1st: Robert Henke—Whitefish Bay, Wis.
"Von Schnookulas Export"

Rob Brunner-Windsor, Colo.

'Tosher Too" Thomas J. O'Connor, III, M.D.-Rockport, "T. Duck's Dortmunder"

14) MUNICH HELLES-44 ENTRIES

Sponsored by L.D. Carlson Co. (Wines Inc.),

Donald J. Weaver-New Freedom, Pa. 1st:

Keith Weerts-Windsor, Calif. "Munich Pils"

Richard Kowalski-Watagh, N.Y.

15) CLASSIC PILSENER-150 ENTRIES

Sponsored by California Concentrates, Acampo, Calif.

German Steve and Tina Daniel-League City, Texas

"League City Pils" German Ron Page-Middletown, Conn. "Alexander's Ragtime Brew"

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German Chris Moes-Woodside, Calif. "ESP Extra Special Pilsner"

16) AMERICAN LAGER—96 ENTRIES

Sponsored by Coors Brewing Co., Golden, Coló.

Cream Ale/Lager
Gene Muller—Westmont, N.J.
"King Bee Cream Ale"

2nd: American Dark Steve and Tina Daniel-League City, Texas "League City Dark"

American Standard

Charles P. Hessom-Redwood Valley. Calif. "Dave's Lager"

17) VIENNA/OKTOBERFEST/MÄRZEN—118 ENTRIES Sponsored by F.H. Steinbart Co., Portland, Ore. 1st: Märzen/Oktoberfest

John E. Janowiak—Adelphi, Md. "Dominion Day Oktoberfest"

2nd: Märzen/Oktoberfest

John M. Roberts—Jamaica Plain, Mass. "The Hunt for Red Oktoberfest"

Märzen/Oktoberfest Ron Page-Middletown, Conn. "Belinda"

18) GERMAN-STYLE ALE—62 ENTRIESSponsored by The Beverage People, Santa Rosa, Calif.

Dusseldorf-style Altbier Bill Yearous-Galt, Calif. "Alt-2-B-A-Law"

Kolsch Bruce Cornell-Baton Rouge, La. "Xmas Eve Kolsch"

Dusseldorf-style Altbier Keith Weerts—Windsor, Calif. "Windsor Alt"

19) FRUIT BEER—115 ENTRIES
Sponsored by The Purple Foot, Milwaukee, Wis.
1st: Classic-style Fruit Beer
Gene Muller—Westmont, N.J. 'Spike's Raspberry Imperial Stout"

2nd: Classic-style Fruit Beer Vern Wolff—Esparto, Calif. "Berry Good Porter"

Classic-style Fruit Beer Kelly Mower and Brent Stromness-Salt Lake City, Utah "Blue Bones Porter"

20) HERB BEER—58 ENTRIESSponsored by Marin Brewing Co., Larkspur,

Classic Style Herb Beer 1st: Richard Mansfield and Mike Smith-San Jose, Calif. "Halleluiah Hallepeniah Pilsner"

2nd: Herb Beer Mike Schaefer-Wauwatosa, Wis. "Jalopils"

Herb Beer Michael Millerick—Fairfield, Conn "Winterfest Celebration"

21) SPECIALTY BEER—140 ENTRIES Sponsored by Beer and Wine Hobby,

Woburn, Mass. Classic-style Specialty Beer Ron Page—Middletown, Conn. "Chocolate Chambord Stout"

Classic-style Specialty Beer Frank F. Miller—Libertyville, III. "Coffee and Cream Stout"

Specialty Beer Ronald B. Moucka—Fort Collins, Colo. "Run For The Border"

22) SMOKED BEER—34 ENTRIES

Sponsored by Jim's Homebrew Supply, Spokane, Wash.

Paddy Giffen-Cotati, Calif. "Kilts on Fire"

2nd: Bamberg-style Rauchbier Mike Fertsch and David Koresh-Woburn, Mass. "Mt. Ngavruhoe Rauch"

Other George Mika-Warrenton, Va. "Parade Pig Porter"

23) CALIFORNIA COMMON BEER-75 ENTRIES Sponsored by Anchor Brewing Co.,

San Francisco, Calif. Michael Dennis Bell-Pleasant Hill, Calif.

"Existential Steam" Robbie Enrico-Greensburg, Pa. "Calif. Common"

Strom C. Thacker-Gainesville, Ga. "Lucy's California Lager'

24) WHEAT BEER (ALE)-123 ENTRIES

Sponsored by American Homebrewers Association, Boulder, Colo.

German-style Walter Dobrowney-Saskatoon, Saskatchewan, Canada "Old Boots"

2nd: German-style Steve Dempsey-Fort Collins, Colo. "Early Weizen"

Berliner Weisse Bruce A. Brandt—Casnovia, Mich. "Lactic Wheateis"

25) TRADITIONAL MEAD-43 ENTRIES Sponsored by Havill's Mazer Mead Co., New Zealand

1st: Walter Dobrowney—Saskatoon,

Saskatchewan, Canada "Amber Glow" 2nd: Sparkling

Byron Burch—Santa Rosa, Calif. "Paschal Celebration"

Still Paddy Giffen-Cotati, Calif.

26) MELOMEL/CYSER/PYMENT/METHEGLIN-112 **ENTRIES**

Sponsored by The National Honey Board, Longmont, Colo.

Still Gordon Olson-Los Alamos, N.M. "Peach Mead"

2nd: Still Bob Gorman-Walttham, Mass. "Slow Summer Screw"

Peter Knight-St. Helena, Calif. "Lime Mead

27) CIDER-41 ENTRIES Sponsored by Lyon's Brewery of Dublin, Dublin, Calif.

1st: Still Gabriel Ostriker-Somerville, Mass. "Still #1"

2nd: Sparkling Gabriel Ostriker—Somerville, Mass. "Applicious"

3rd: Specialty Cider Gabriel Ostriker—Somerville, Mass. "Symphonie Crantastique"

28) SAKÉ—8 ENTRIES Sponsored by Hakusan Saké, Napa, Calif.

Saké Jim Long-Sacramento, Calif.

2nd: Sparkling

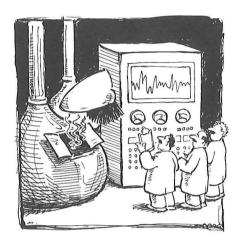
Jim Long-Sacramento, Calif. "Sparkling Apple Saké'

Saké Fred Eckhardt-Portland, Ore.

*The Ninkasi Award was introduced in 1992 to recognize and honor the high point 'The Ninkasi Award was introduced in 1992 to recognize and honor the high point homberwer, the brewer who accumulates the most points in all categories of beer, mead, cider and saké in the AHA National Homebrew Competition for one year. Three points are awarded for a first place, two for a second place and one for a third place. In case of a tic: If one of the tied contenders wins a Best-of-Show beer, mead, cider or saké, they will be declared winner of the Nikasi Award. For information, contact Karen Barela, AHA President at (303) 447-0816.



The Bionic Nose



Britain's Bass Brewers, in cooperation with British universities and the Department of Trade and Industry, is testing an "electronic nose" to help brewers monitor the brewing process. The experimental sensor uses 12 polymers that absorb aroma compounds from beer, changing the electrical conductivity of the polymer. These changes are analyzed by a computer that produces a "fingerprint" for each aroma compound. Human tasters still have to "train" the sensor to recognize aroma compounds. The sensor's advantage, says Roy Cope of Bass, is that it can sniff an entire batch of beer while a human taster can only taste individual samples.

Matters of Gravity

In **zymurgy** Summer 1993 (Vol. 16, No. 2), we reported that Becks sent hops into space to see how radiation affects growth. In April

the same brewery sent a tube of yeast and beer ingredients up with the space shuttle Columbia to determine the effects of weightlessness and space radiation on the yeast cells. Experimental batches of beer will be made after the shuttle returns. Becks hopes the experiment will lead to a yeast strain that ferments faster at lower temperatures and produces a beer less likely to cause a hangover.

Feel Your Beer

Researchers at Pennsylvania State University have proposed a set of terms they believe the beer industry can use to describe the mouthfeel of beer. According to Jean-Xavier Guinard, Ph.D., assistant professor of foods in the College of Health and Human Development and author of Lambic (Brewers Publications, 1990) the concept of mouthfeel is the least understood of all sensory attributes of beer. The nine terms Guinard uses to describe mouthfeel are (1) Sting - intensity of initial sharp pain associated with carbon dioxide, (2) Bubble size - size of globule of gas trapped in the beer, (3) Foam volume - three-dimensional extent of gas bubbles, (4) Total carbon dioxide - amount of carbon dioxide in the beer, (5) Density – perceived weight of the beer in the mouth, (6) Viscosity – degree to which the beer resists flow under an applied force in the mouth, (7) Oily mouth coat – slippery, oillike film inside the mouth, (8) Astringency - puckering and constricting tactile sensation on the soft tissues in the mouth and (9) Stickiness - sensation of the tongue adhering to the palate.

AHA Sanctioned Competitions

Bay Area Brewoff

John Pyles of Fremont, Calif., organized the Bay Area Brewoff last January in Dublin, Calif. The competition drew 159 entries.

Winterfest

Las Vegas, Nev., was the site of the January Winterfest. Kendall Head of Chino, Calif., took best of show out of I52 entries.

Marquis de Suds

The ninth annual Marquis de Suds homebrew competition drew 177 entries on Feb. 27. Art Toderian of Calgary, Alberta, Canada, took best of show at the Calgary competition.

"Wort You Brewin' ?" 1993

Jim Cave of North Vancouver, B.C., took best of show out of 106 entries at the March 6 "Wort You Brewin'?" 1993 competition in Vancouver, B.C.

TRASH III

The third annual TRASH III All-Category Competition drew 184 entries on March 6 in Pittsburgh, Pa. Dave Hammaker of Roaring Spring, Pa., took best of show with his "Old Curmudgeon" barley wine.

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March Mashfest

Brian Kelly of Denver, Colo., won best of show at the March Mashfest in Denver.

Hudson Valley Homebrewers

The Hudson Valley Homebrewers third annual Homebrew Competition drew 185 entries for the March 27 competition in Poughkeepsie, N.Y. George Worth of Gardiner, N.Y., took best of show with his weizenbock.

Gem State

Cheryl Rogers of Boise, Idaho, took best of show at the Gem State Homebrewers Competition judged in April in Boise. The competition had I25 entries.

Dukes of Ale Spring Thing

Barbara Ruth of Albuquerque, N.M., took best of show with her sweet stout at the Dukes of Ale third annual Spring Thing Beer Competition in Albuquerque. The April 24 competition gathered 65 entries.

Seventh Annual Bidal Society

Kenosha, Wis., was the site of the seventh annual Bidal Society of Kenosha Regional Competition on April 24. Mark Richmond of Springfield, Ohio, took best of show out of 238 entries.

U.S. Open

The third annual U.S. Open Homebrewing Competition on April 24 judged I38 entries in Charlotte, N.C. Bob Gross of Charlotte took best of show.

Upstate New York Homebrewers Association/Empire State Open

The I5th annual Upstate New York Homebrewers Association/Fourth Annual Empire State Open Homebrew Competition drew I29 entries on April 24 in Rochester, N.Y. Scott Abrahamson of Edmond, Wash., took best of show with a brown ale.

Evanston First Homebrew Challenge

Bill Seliger of Chicago took best of show out of 78 entries at the Evanston First Homebrew Challenge on April 25 in Evanston, Ill.

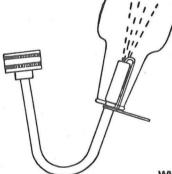
Boston Brew-Off

The Barleymalt & Vine Boston Brew-Off took place April 26 through May 17 in West Roxbury, Mass. Henry Davey of Brookline, Mass., bested 75 other entries in the competition.

Green Mountain Competition

The 1993 Green Mountain Homebrew Competition was held May I in Burlington, Vt., best-of-show winners were Andy Rudack and Larry Weins of Colchester, Vt. Leonard Perry of Milton, Vt., won the Brewmaster's Cup. His beer will be brewed at the Vermont Pub and Brewery. Paul Hale of Burlington won





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UNITED STATES: P.O. BOX 2683 SUMAS, WA 86295-2683 Vermont Homebrewer of the Year. The competition drew 29I entries.

IBU May Day

The Ithaca Brewers' Union May Day Ale Competition drew 79 entries in Ithaca, N.Y. Scott Bickham and Ken Morton of Ithaca tied for best of show.

Spirit of Free Beer

George Griffith of Haymarket, Va., took best of show at the Nation's Capital "Spirit of Free Beer" Homebrew Competition in Washington, D.C., on May I. The competition judged 186 entries.

Big & Huge

Madison, Wis., was the site of the Big & Huge Homebrew Competition on May 8. Dennis Davison of Greenfield, Wis., took best of show out of the 24 entries judged.

Oregon Homebrew Festival

Doug Henderson of Portland, Ore., took best of show at the Oregon Homebrew Festival May 8 in Corvallis, Ore. The competition drew 99 entries.

Rocky Mountain Homebrew Shootout

Mike Sternick of Denver, Colo., took best of show at the Rocky Mountain Homebrew Shootout May 8 in Denver. Sternick's mead took the prize from 66 other entries.

Micro and Pubbreweries

(Information provided by the Institute for Brewing Studies, Boulder, Colo.)

OPENINGS United States

Microbreweries

California: Hangtown Brewery, Placerville **Colorado**: High Country Brewery, Boulder;

Pikes Peak Brewery, Colorado Springs

Maryland: Frederick Brewing Co., Frederick

Massachusetts: Middlesex Brewing Co.,

Burlington

Ohio: Gambrinus Brewing Co., Columbus Oregon: Oregon Trail Brewery (*reopened*) Corvallis; Deschutes Brewery (No. 2), Bend Texas: Hill Country Brewing Co., Austin . Virginia: Potomac River Brewing Co.,

Chantilly

Washington: Seattle Brewers, Seattle

Brewpubs

California: Jupiter Brewpub, Berkeley; Pacific Hop Exchange, Novato; Riverside Brewing Co., Riverside; Redondo Beach Brewing Co., Redondo Beach; San Rafael Brewing Co. at T.J.'s, Novato; Santa Rosa Brewing Co. (formerly Kelmers), Santa Rosa

Colorado: Green Mountain Pub and Brewery, Boulder; Steamboat Brewery and Tavern, Steamboat Springs

Illinois: Galena Main Street Brewery/ Kingston Inn Restaurant, Galena Kansas: River City Brewing Co., Wichita Michigan: Traffic Jam and Snug, Detroit

Oklahoma: 75th Street Brewery, Waldo

New Hampshire: Martha's Exchange Brewpub, Nashua

New Mexico: Assets Grill and Brewing Co., Albuquerque; Rio Bravo Restaurant and Brewery, Albuquerque

Tennessee: Big River Grille and Brewing Works, Chattanooga; Bluff City Grill and Brewery. Memphis

Virginia: Bardo Rodeo, Arlington Utah: Ebenezer's Brewery, Riverdale

Canada

Microbreweries

Ontario: Canada's Finest Beers Ltd., Wheatley; Taylor & Bate Brewery, Elora

CLOSINGS United States

California: Kelmers Brewhouse, Santa Rosa; The Red Kettle, Encinitas Illinois: Berghoff Brewery, Chicago Virginia: Virginia Brewing Co., Virginia Beach





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Brewing Beers Like Those You Buy,

by Dave Line

Techniques and recipes for duplicating more than 100 of the world's most famous commercial beers. Everything from Thomas Hardy's to Foster's Lager to Lowenbrau.





Yeast Culturing For the Homebrewer,

by Roger Leistad Liquid yeast cultures can dramatically increase the variety of beers you can make. Learn how easy it is to propagate liquid yeast cultures at home.



First Steps in Winemaking

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needs to know to get
started. Includes
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recipes.



Making Wines Like Those You Buy, Acton & Duncan

This book shows how to make white, red and rose' table wines, Sauternes, Hocks, Moselles, Madeiras and champagne, plus a wide variety of liqueurs and apertifs.



Winemaking with Concentrates Duncan

A practical guide to the production of wine from grape and other fruit juice concentrates.



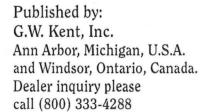
Progressive Winemaking

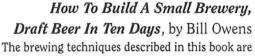
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Winemaking with Elderberries, Belt

This commonly found fruit makes a multitude of delicious drinks. This book provides over 115 recipes and includes detailed instructions.





The brewing techniques described in this book are the same used by the author at his brewpub, Buffalo Bill's in California. Bill's six barrel brewhouse uses the same tower brewing methods described in this book. Bill Owens shows how to build the entire system at home and how to produce carbonated beers from all-grain in just 10 days.



G.W. KENT

G.W. KENT

G.W. KENT

G.W. KENT



Michael Jackson

A Brewery

With Its

ike most of us, I am inclined to believe that the British operation of Guinness has taken leave of its senses in proposing to withdraw the unpasteurized, bottle-conditioned version of the black stuff. On the other hand, it could just be a scheme cooked up with the Irish Tourist Board.

The requirement to stock up, and the new absence of any customs limits, will be a fine excuse for more frequent visits to Ireland, where they show no sign of relinquishing proper bottled Guinness or even entertaining anything else.

There was a time when even the draft Guinness was unpasteurized in Ireland, but that is no longer the case. At least it is pasteurized by the "flash" method, rather than the more tortuous tunnel system

applied to bottles.

Own Abbey It Must Be
Ireland

Having begun my beer-drinking career as a teen-ager in the late 1950s, it is a matter of regret that I did not start traveling in time to sample cask Guinness or, indeed, the oldestablished ales of Ireland in that form. Given that there are few countries with cask ales (though the number is growing) the traveler has to make adjustments. In Ireland, as in

many parts of the world, I am pleased to find an ale at all, even

if it is not in the form I would prefer. No lover of beery variety would be happy to see

riety would be happy to see Ireland's ales drowned between the mighty stouts and the flood of lagers, and there always seems a danger that might happen.

I will always blackly cherish the memory of a Dublin bar that displayed a hand pump announcing the ale made by

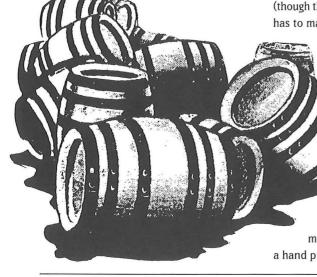
Dempsey's, a short-lived microbrewery there. "I'll have a pint of that, please," I beamed expectantly. "Ah, we don't actually have that any more," confided the barman. "People didn't like it."

Then, sensing that further explanation was required, he dealt the coup de grâce: "No, they wouldn't drink the stuff — it was real ale, you see."

I began my travels in Ireland in the I960s at which point I tasted the odd ale that is no longer made. Since then, I have sampled a selection of products made at various times in the Republic's three specialist ale breweries and at least two versions of George Killian Lett's "Red," as created under license in France and Colorado.

Since I began to write the occasional piece on the subject, more "Irish-style ales" have popped up elsewhere in North America.

Why Irish ales tend toward a reddish color, I am not sure. Malting techniques do vary from one country to another, and that may have had something to do with it in the past. The Lett's brewery had a Ruby Ale before it closed in the 1950s so I cannot wholly accept the popular story that the Irish brewers were inspired by the success in the 1960s of Younger's Tartan. All of the specialist ale brewers in the Republic are now owned by Guinness, and all use roasted barley as an ingredient, which will make for some similarity of color. Of the Irish ales that I have tasted over the years, most have tended toward a buttery, malty sweetness rather than a hop-



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Phone Orderline: 800-759-6025 Fax Orderline: 800-283-2745 Allow 3 weeks for free delivery py dryness. If we accept that hops were first used in beer in Bohemia or Bavaria, and came via Northern France and Flanders to Britain. it is reasonable to assume that their use arrived rather late in Ireland.

The country seems never to have had a serious hop-growing industry. In recent years, some excellent Fuggles were grown in Kilkenny, but that experiment has now been abandoned. Guinness is, of course, a very hoppy beer, but it imports the magic cone.

The three specialist ale breweries are Cherry's (at Waterford), Smithwick's (not far away at Kilkenny) and Macardle's (at Dundalk, on the border).

I suppose the Normans must have landed at Waterford and found their way up the river Nore to the high and defensible point where they built St. Canice's Cathedral, what is now Kilkenny. Down below, the Nore meets a smaller river called the Breaghagh (Irish for "the liar" because it looks calm and then suddenly floods). There, Franciscan monks built an abbey, which probably had its own brewery. The 13th-century abbey church still stands, with tower but without roof. It is an extremely impressive ruin.

Next door in 1710, John Smithwick founded a brewery to make ale for what had become a prosperous town. There was briefly an Irish Parliament in Kilkenny. The town is famous for marble, and it is the trading center for a fertile agricultural region.

The abbey ruins, with kegs stacked outside their seven-lance window, are now in the middle of the brewery yard. Smithwick's has grown around them. The brewer's house and a former maltings, both from the 1800s, still stand. The line of the abbey seems unconsciously to be mimicked by a modern malt bar.

The 1960s brew-house building has more recent stainless-steel kettles in traditional shapes, and its interior has a smart red trim. In the early 1970s, cylindroconical fermenters were introduced.

Around the same time, the oratory of the abbey church was restored and the brewery's statue of Our Lady installed there. With the use of some slates salvaged from the church, a sample room for quality control was built alongside in 1980.

Across the yard, the former cask-conditioning cellers have been decorated with old advertising material and spruced up as a guest bar. There has been no lack of investment at Smithwick's, and its ales are heavily advertised in Ireland, despite the gradual erosion of this segment of the market. In the 1950s an interest was acquired by Guinness, which took over the company in the 1960s and sole control in the late 1980s. The basic Smithwick's Draught has a creamy head, a palate that is very soft at first but develops in sweetness, and a hint of treacle toffee dryness in the finish. It seems bigger than might be expected from a gravity of 1.036. It is brewed from pale ale malt, roasted barley and 20 percent corn syrup, with English bittering hops, plus Fuggles and Goldings for aroma.

Smithwick's used the same yeast for many years, and the beer has a week's cold maturation. Draft Smithwick's is also made by the Cherry's brewery in Waterford. The bottled version of Smithwick's, known as Number I, is a point higher in gravity and has IO percent corn syrup. A version called Smithwick's Export in the Canadian market, and called Kilkenny Irish Beer in some European countries, has a gravity of I.048 and is all malt, with fuller color and higher bitterness. Italy has a I.052 called Kilkenny Strong.

Smithwick's also has a 1.062 barley wine. This is very distinctive, with an earthy hoppiness, a winyness and lots of fruit and toffee flavors. I was concerned for the survival of this product, but it seems to be doing well as a minor speciality.

Kilkenny is a delightful town, in which I would have liked to linger for a day or two. Perhaps I will on another occasion.

"All Irish towns are the same," said the man in the pub. "A cathedral for the Catholics, another for the Proddies — and I3 bars."

Perhaps, but how many have a brewery, especially one with a ruined abbey in its yard?

Reprinted with permission from What's Brewing, newspaper of the Campaign for Real Ale.

Michael Jackson is internationally the bestknown writer on beer. His articles, books and documentary films have introduced beer styles to countless drinkers and brewers outside their native lands. His use of taste descriptions, and accounts of his travels, introduced a new genre of writing on beer.

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The New Brewer

THE MAGAZINE FOR MICRO- AND PUB-BREWERS



Candy Schermerhorn

PPLAUSE For PPLES

ew foods (besides beer, of course) have played such an important role in the development and cultural growth of our society as apples.

How could one fruit figure so importantly in the scheme of human history? The answer is debatable, but one fact stands out — the versatility of the apple is unparalleled by any other fruit. Scrumptious eaten raw, refreshing when pressed for juice, cider or applejack, comforting when cooked into a sauce and delectable when baked, apples are truly diverse in the culinary pleasures they bestow upon us.



Although the fruit is thought to have originated in Southwest Asia, most every country has adopted and hybridized the apple in one form or another. There are more than 7,000 horticultural varieties of apples. How sad that we see only a few dozen of those!

It is astonishing how the apple not only tastes wonderful in all its original forms but can subtly merge its exceptional qualities with those of other foods. A few pleasurable examples of this merging might be a simple Apple-Cranberry Relish, Scalloped Apple and Potato Casserole, Golden Apple and Lamb Curry or a delectable Apple and Pear Cobbler. Each of these dishes takes on exciting significance when paired with the aristocratic apple.

How does beer figure into the apple scene? Undeniably, the singular crisp, perfumed essence of an apple is accented flaw-lessly by the malty character of our beloved brew. The flavors complement each other.

To combine the two in your kitchen can be as simple as sautéing apple and ham slices in butter, premium lager, sugar and spices for an omelet filling or as extravagant as steaming cored apples with bock beer before stuffing and baking in puff pastry.

The types of beer you can use are as diverse as the apple varieties. Each style of beer will bring out a different quality in the dish, so let your own tastes, preferences and stock on hand guide you.

Do be sure to use cooking apples such as Granny Smith, Winesap, Cortland, Greenings, Pippins, McIntosh and Golden Delicious. They should have a firm texture and pronounced tart-sweet flavor. It is a pleasure to share a few recipes that will help you begin combining the foods of nobility — fine beer and apples.

Onions Stuffed with Apples and Sausage

The phenomenal flavors of glazed apples, onions and sausage combine for a stunning side dish or elegant entrée.

Serves six.

- 6 large whole yellow or brown onions, unpeeled
- 2 tablespoons butter
- 2 medium apples, peeled, cored and chopped
- 1/2 cup pale ale
- 2 tablespoons brown sugar
- 1/2 teaspoon Chinese five-spice powder (available in Oriental section of grocery stores) or cinnamon
- 1/3 pound lean, spicy sausage, cooked and drained thoroughly
- l cup fresh, soft bread crumbs
- 1/4 cup pale ale
- 1/2 cup fresh bread crumbs
- 1/4 cup grated Fontinella or Parmesan cheese
- 3 tablespoons butter, melted and cooled slightly

(I) Place onions in a pan and bake in a preheated 375-degree-F oven for 45 to 55 minutes or until they feel like a properly baked potato when squeezed slightly. Cool briefly.

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- (2) Meanwhile, heat a heavy skillet over medium. Add butter and when the foam subsides, sauté the apples five minutes.
- (3) Add I/2 cup pale ale, sugar and fivespice powder, raise the heat to medium-high and cook until all liquid has evaporated and the apples are glazed. Remove and cool.
- (4) Remove the onion skins and cut off both ends. Remove the inner onion leaving the thick shell intact.
- (5) Chop the inner part from two of the onions. Toss lightly with the sausage, glazed apples and bread crumbs. Stuff the onions with this mixture.
- (6) Place each onion upright in a buttered Texas (large) muffin tin or individual baking dishes. Raise the oven heat to 400 degrees F.
- (7) Spoon I/4 cup ale over the top. Toss together the bread crumbs, cheese and melted butter, sprinkle over onions.
- (8) Bake 15 to 20 minutes or until the tops are golden.

Apple Tart with Lager Glaze

An elegant, full-flavored tart, this unusual preparation combines a sweet beer glaze with the full flavor of tart apples. Serves eight.

7 to 8 tart apples

- l lemon, zested and juiced
- 1/3 cup granulated sugar
- 1/4 cup brown sugar
- 1/4 cup premium light or dark American-style lager
- 2 teaspoons cinnamon
- l teaspoon vanilla
- 3 tablespoons strong cider or concentrated frozen apple juice, thawed
- 4 tablespoons butter
- I prepared pie crust in a 10-inch tart pan with a removable bottom

- (I) Peel, core and thinly slice the apples. Toss with lemon juice and zest.
- (2) In a heavy saucepan, heat sugars and lager over medium, stirring until the sugar dissolves. Turn heat to medium-high and cook without stirring until 234 to 240 degrees F on a candy thermometer. Remove and cool only slightly.
- (3) Meanwhile, arrange the apples in concentric circles starting with the smaller pieces and topping with larger pieces. Arrange a rosette of slices in the center.
 - (4) Stir the cinnamon, vanilla and cider in-

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to the very warm syrup. Pour over apples and dot with butter.

(5) Bake on the center shelf of a preheated 425-degree-F oven 15 minutes. Reduce heat to 350 degrees F and bake 50 to 60 minutes, or until the apples are tender and the top is golden. Cool until just warm before unmolding.



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- 4 tablespoons unbleached flour
- 2 teaspoons Kosher salt
- 1/2 teaspoon freshly ground black pepper
- 1 teaspoon crushed thyme
- 1/4 to 1/2 teaspoon cayenne or finely crushed red chili flakes
 - 1 1/2 pounds White Rose or Russet potatoes, peeled and thinly sliced
 - I pound Granny Smith apples,

- peeled, cored and thinly sliced
- 2 small onions, thinly sliced
- 6 tablespoons butter, melted and cooled slightly
- I cup heavy cream
- 1 cup brown ale or cider
- 2 large cloves garlic, finely minced

1/2 to 2/3 cup grated Swiss cheese

- (I) Generously butter a three-quart casserole. Combine the flour, salt, pepper, thyme and cayenne.
- (2) Toss the potato slices with half the butter, repeat with the apple slices.
- (3) Overlap half the potatoes in the casserole. Sprinkle with one-fourth of the flour mixture. Place half the apple and onion slices over the potatoes and sprinkle with one-

fourth of the flour. Repeat with remaining potatoes, apples and onions.

- (4) Combine the cream, ale and garlic. Pour over the top, cover with foil and bake 50 minutes at 375 degrees F.
- (5) Remove the foil, reduce temperature to 350 degrees F and continue baking 35 minutes. Sprinkle the top with cheese and bake an additional 15 minutes, or until golden.

Candy Schermerhorn of Phoenix, Ariz., is a culinary consultant in the Phoenix area. She takes great joy in educating the public about beer and its culinary potential through her cooking classes. This enthusiasm for homebrew cooking has prompted her to write the *Great American Beer Cookbook* to be published by Brewers Publications this winter.





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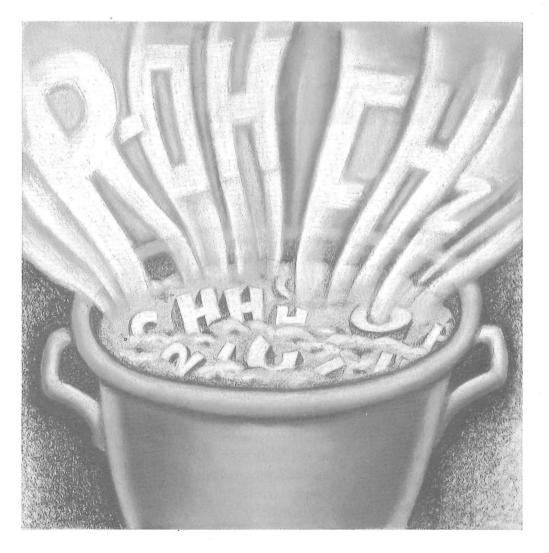
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FUSEL



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By George Fix

he terms fusel alcohol, fusel oil and higher alcohol can be regarded as equivalent names for a family of alcohols whose chemical structure is more complicated than ethanol. These alcohols have very low flavor thresholds, hence practical brewers will want to be aware of them and how they arise in the brewing process.

I'll begin with a brief survey of the basic organic chemistry of these compounds, then follow with a discussion of the biochemical pathways that lead to their formation. Fortunately, this is a well-understood area of brewing science. Early work on fusel alcohols can be traced to Ehrlich's fundamental studies in the first decade of the 20th century. As is typical of well-understood areas of brewing science, there is wide-spread agreement about the implications that brewing procedures and brewing materials have on fusel al-

After that, we will enter more turbulent waters by considering the suitability of having fusel alcohols at or above threshold for the major beer styles. There is general agreement in the international commercial brewing industry: Fusel alcohols are unwelcome and would be regarded as a defect if present at levels well above threshold. With contemporary homebrewers, however, there appears to be little agreement. I am aware of many experienced, knowledgeable and accomplished homebrewers who are 180 degrees apart on this issue — I will touch on this issue as well.

Alcohols have the form:

R - OH

where the radical R defines the type of alcohol. Ethanol is the alcohol most relevant to beer, and it has the following structure:

This is an example of an aliphatic alcohol, a term that comes from its linear carbon chain. Propyl alcohol (propanol) is another example:

Other examples relevant to beer include butyl alcohol (butanol), isobutanol (2-methyl-l-propanol) and the amyl alcohols (2-methyl-butanol and 3-methyl-l-propanol). The aliphatic alcohols have a low level of volatility and are usually regarded as involatile in beer.

The fundamental studies by Morten Meilgaard and his colleagues showed that as the length of the linear carbon chain increases, so does the power of the flavor of the organic compound involved. This is certainly the case of the aliphatic alcohols, as Table I shows.

The second major class of alcohols is the aromatic alcohols. These are quite volatile, and are characterized by the presence of aromatic rings. Tyrosol is an example:

The aromatic alcohols in beer are usually grouped together and reported as phenol alcohols. They are quite phenolic/medicinal in character.

Ethanol is formed by the metabolism of elementary sugars via

sugar → aldehyde → alcohol

The fusel alcohols differ in this regard because they are formed through the metabolism of elementary proteins (amino acids). For example, the pathway for one of the amyl alcohols is the following:

leucene → isovaleraldehyde → 2-methyl-1-butanol

In Ehrlich's early studies, the relevant amino acids found were derived from wort, like the example above for the amyl alcohol. This is now called the Ehrlich pathway. Wort composition and yeast strain are two important factors in this pathway. Fermentation temperature and wort specific gravity are two other important factors, and this pathway is enhanced if either is increased.

Later it was discovered there is a second pathway, namely one where the needed amino acids do not directly come from wort, but are metabolized by yeast. This is now known as the biosynthetic pathway. While the factors cited above are involved in this pathway, one cannot understate the importance of yeast strain and the possible presence of non-culture yeast in this area.

Yeast Strains

The above theoretical considerations can be augmented with data from actual brews. Different yeast strains do indeed produce different fusel alcohol levels under similar conditions. Table 2 displays data with 12-degree (SG = 1.048) all-malt worts fermented with six different yeast strains.

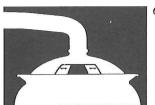
The Ballantine/Sierra Nevada yeast, Wyeast 1056, is well-known to give clean finished beer flavors. Its consistent ability to leave the fusel alcohols at or below threshold is but one reason for this. The Whitbread strain is known for the dry and crisp, fruity flavors it tends to produce. The fusel alcohols are slightly above threshold, but the effect is subtle. This profile is similar to the commercial ale brewed with this strain. The third strain, unnamed dry yeast, is typical of the older type of dry yeast distributed in the 1970s and 1980s, where stain "crossover" occurs in production. This resulted in a culture that was a mixture of beer and bread yeast, the latter being itself a combination of different yeast strains.

The beer brewed with the unnamed dry yeast strain invoked responses like "crude and unclean," "medicinal" and "phenolic." It was, to be sure, a "funky homebrew." Modern homebrewers in growing numbers have been rejecting strains like the dry yeast in favor of pure cultures. This has had the beneficial effect of forcing producers of dry yeast to dramatically alter production procedures, and in particular, to introduce sterile ones. This will likely mean that the cost of various

TABLE			
Flavor	Threshold	of	Alcohols

Alcohol	Average Threshold mg/L	Flavor (taste and/or smell)
Ethanol	15,000	alcohol
Propanol	700	alcohol
Butanol	180	alcohol
Isobutanol	180	alcohol
Amyl alcohols	85	banana
Phenol alcohols	45	medicinal

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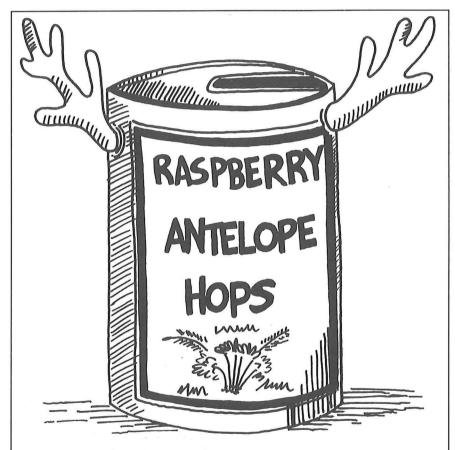
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Atlanta, Georgia 800-666-2440 Westport, Massachusetts 800-999-2440 dry yeasts will increase. On the other hand, such yeast strains as the third unnamed yeast hopefully will become relics of the past, like the moldy grains and brown oxidized hops that adorned homebrew shops in the 1970s and early 1980s.

The preferred lager strains typically leave fusel alcohol levels very low. This is certainly true of the last three strains. Remarkably, even Weisenheimer (W-308), a strain that is given to misbehavior, consistently does a good job in this area.

Table 3 contains analogous data from commercial beer. This data was obtained from Dr. Piendl's "Biere aus aller welt," which appears in various volumes of *Brauindustrie*.

Observe that all of the levels in Table 3 are at least a factor of two below that of the wild homebrew (unnamed dry yeast in Table 2), and that this is true even for EKU 28. The latter also points to the fact that yeast strain and fermentation temperatures are more important than wort specific gravity insofar as fusel alcohol levels are concerned. This is not true, however, for ester levels. For example, Dr. Piendl reported the ethyl acetate level of EKU 28 is a whopping 68 mg per L, compared with II mg per L for Paulaner Urtyp 1634 and 16 mg per L for Budweiser. The flavor threshold for ethyl acetate is 33 mg/l. Selected ester levels of Old Peculier also are well above threshold. Because esters are formed from an interaction of alcohols and acids, brewers of high-gravity commercial beers apparently prefer that esters win the alcohol-ester battle. They do this by selecting an appropriate yeast strain, and by using appropriate fermentation temperatures.

Some homebrewers have proposed the use of a blowoff tube in fermenters as a method of removing fusel alcohols. Since the aliphatic alcohols have a low level of volatility it is unlikely their level is affected much by this procedure. There is also no evidence which shows the aromatic alcohol are affected either. The procedure itself is controversial in that some homebrewers report that the use of a blowoff tube dramatically improves their beers. Yet there are others who report the reverse, or that it has no effect. In fact, this would make an excellent article for zymurgy: "To blowoff or not to blowoff," assuming of course the relevant issues are correctly identified. Any takers?

While fusel alcohol levels are typically low in just about all major commercial beers, the same is not true of homebrew. J.S. Hough, et al, remarked on page 790 of Malting and Brewing Science (Vol. II) (Chapman and Hall, 1982) that it is "noteworthy that the levels of higher alcohols in homebrewed beer and wines is at 10 times higher than those in commercial products." The study which led to these conclusions is now more than 10 years old, and is not current. What I have found today is a great variation ranging from levels comparable to commercial beer to very high levels. Most homebrewers react negatively to the medicine chest flavoring of phenol alcohols, but there appears to be a wide variation in the acceptance of aliphatic alcohols. Those who display a relative acceptance of fusel alcohols sometimes remark upon tasting a beer with very low levels that the "beer lacks kick." On one occasion, a Beer Judge Certification Program judge expressed the opinion that the beer "was too smooth." Conversely, those who display low levels of tolerance will typically remark that a beer with

TABLE 2 Effects of Yeast Strain on Fusel Alcohol Production

Alcohol, mg/1 Amyl Alcohols	Phenol Alcohols	
7.my raconois	THORIOT ALCOHOLS	
70	30	
138	60	
(3) Unnamed dry yeast suspected to have		
263	310	
25	15	
35	18	
55	15	
	70 138 ive 263 25 35	

high fusel oil levels is "crude" or "rough and not smooth." The highest fusel alcohol levels appear to be found in some (but not all) homebrewed barley wines. What is fun —

indeed a hoot — are the discussions that take place in competitions where barley wines are being evaluated by judges with different tolerances of fusel oils.



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TABLE 3 Fusel Alcohol Levels in Commercial Beer Samples

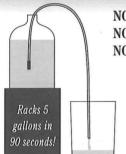
Beer	Original Extract	Amyl Alcohols	Phenol Alcohols
Budweiser	11.2	59	32
Karlsberg Ur-Pils	11.4	56	22
Dortmunder	12.6	76	33
Actien-Export			
Paulaner	12.8	50	12
Urtyp 1634			
Salvator	18.3	134	54
EKU 28	28.8	116	24
Whitbread Pale Ale	13.8	133	81
Bass Pale Ale	11.8	113	62
Old Peculier	14.8	131	91

Fusels and Headaches

There are some who believe that beers with high fusel oil levels tend to promote headaches. This is certainly the case when excessive consumption is involved. In fact, even ethanol is toxic at high concentrations. What is less clear is why some people react adversely with some beers but not others at low levels of consumption. Because the fusel alcohols are more toxic and intoxicating than ethanol, they are certainly candidates for inducers of headaches. Some studies have confirmed this, yet other studies have pointed to tannins as the culprit in both beer and wine. There also is strong evidence that oxidation products found in stale or partially stale beer promotes headaches. This is apparently why some find their own

homebrew does not give headaches but select commercial beers do. In the cases where headaches are caused by commercial beer and not homebrew, it could be because homebrew is fresh. Because adverse reactions





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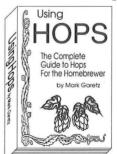
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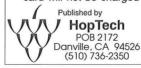
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to libations tend to be partly physiological and partly psychological, there may be many constituents involved that are different for different individuals. Individual reactions to fusels vary, as does scientific proof confirming or denying the exact cause of headaches.

Elevated fusel alcohol levels in spirits like "traditional moonshine" and "bathtub gin" are responsible for these concoctions being regarded as legitimate health hazards. However, these levels have been reported to be in the range of several thousand mg/L, a factor of 100 to 1,000 more than what is found in homebrew. Thus, a particular homebrew may be appealing and delicious, or conversely wild and funky. In either case, if consumed in moderation it will definitely be a healthy and positive portion of one's diet.

In summary, beginning and intermediate brewers would be well advised to keep fusel alcohol levels low. Perhaps the best advice is to focus on fermentation and the yeast strain used. Because elevated temperatures tend to promote misbehavior by yeast, they should be avoided. Also remember that "elevated" for most ale strains means in excess of 68 degrees F (20 degrees C), with this dropping to around 57 degrees F (14 degrees C) for lager strains. Flexibility also should be shown toward the yeast used. If a particular stain is producing high fusel levels, then brewers should not hesitate to try other strains. There is lots of good yeast available today, so we do not need to suffer defects lightly. It should be noted, on the other hand, that the presence of phenol alcohol can be due to a wild yeast infection. Thus, for this and a thousand other reasons, one will want to do a good job of cleaning and sanitizing.

This article is available in Library I3-AHA/*zymurgy*/Clubs on CompuServe's Beer and Wine Forum as FUSEL.F93.

A native Texan, George Fix lives with his wife Laurie in Arlington. He earned a doctorate at Harvard University and has been on the faculties of Harvard, Michigan and Carnegie-Mellon. He is chairman of the mathematics department at the University of Texas at Arlington and is the senior consultant for Brewer Research and Development Co. Fix has won 60 brewing awards including two best of shows in AHA and HWBTA sanctioned competitions.

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he New England Home Brewing Championships were in full swing in Westport, Mass., last spring. Judges were in place, sipping the brews proffered by stewards who crisscrossed the floor with pitcher after pitcher of foamy beers. Scores were jotted on slips of paper and tallied on a computer. Contest coordinator Leslie Reilly drifted from table to table, watching the judges at work. Contestants and guests filled the room, chatting with one another. All seemed to be running as smooth as a fine Pilsener.

But back in the corner where the stewards were busy pouring entries into crystalclear pitchers, another story was unfolding beneath the contest forms wrapped around the bottles and secured with rubber bands: horrible! Many a longneck still carried undisturbed labels with the name of the last commercial brewery to fill the bottles. That's exactly why Bob Bergeron and I were manning a table near the door. On it were examples of our own homebrew labels.

We're a couple of homebrewers who spend part of our time earning a living as commercial printers. We both shudder when someone invites us to taste a favorite recipe of stout or lager, then presents a bottle that says Bud, Miller or Heineken. While Ron Page was on his way to taking the lion's share of category awards and eventually the New England title, we were agitating for better window dressing on the container. We showed, chatted and even sold a few packets of labels.

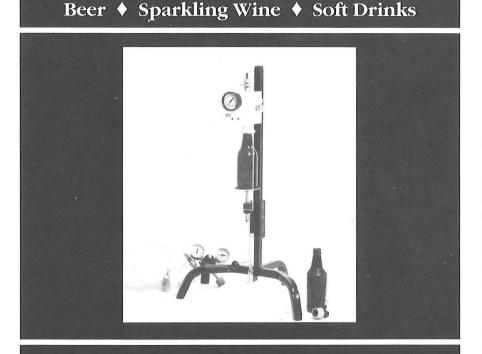
This label mania goes back to before I met Bob and led him into the world of malt and hops. When I was participating in the now-dissolved South Yeast Mashachusetts

Brewers homebrew club, I would blanch at a commercial label still on a bottle with a homebrew inside. Then, my longnecks were always bare, thanks to much scraping and scrubbing. Soon I began designing labels. They were handdrawn then duplicated on a copy machine. One sketch, finalized by artist-friend Rita Hutchinson, won the label contest at the Northamton (Mass.) State Fair homebrew contest. I accepted the ribbon with mixed emotions: my good stout inside took only an honorable mention.

You are already creative if you're brewing. Dream about your beer a bit, and visualize what it means to you. Each has its own character. Put that image on paper and get it duplicated. Scrape off those Millerweiser labels and glue on your own. Your friends will be impressed! It's easy and cheap. If you don't have any ideas, look at some of the labels on

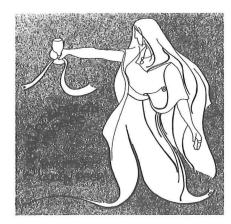


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Wealhtheow's Meede. A mezzotint screen is "dropped in" behind the figure.

domestic and imported commercial brews. Thumb through Michael Jackson's *New World Guide to Beer* (Running Press, 1988) for more ideas. If you can't draw a straight line, talk to artistic friends then dress up your bottle.

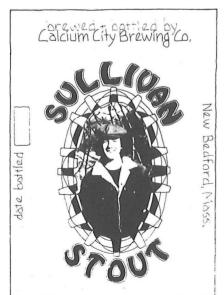
A label is a picture and an announcement. Your own words are that announcement, in type, on the label — a name, a poem, your name, something about the brew. The picture can be graphic or surreal, a photograph or a sketch. It can be one color, two or more. Full-color photos are great. Each additional color, however, adds cost, and separations of color photos can cost about \$50. You can letter the label by hand, find a calligrapher to do it, use rub-on type or send it out to a typesetter. Desktop publishing is another alternative.

Consider some ideas of mine. "Wealtheow's Meede" (Wealtheow's Meadow) is a malt-and-honey light beer. It reminds me of the Anglo-Saxon period of warrior kings and their men. Wealtheow's husband, Hrothgar, receives the legendary hero Beowulf and the queen comes out herself to present him with the first ceremonial cup of beor (Old English for beer). On the front label, a queenly figure stands with cup in hand, arm outstretched. The back label of the two-piece set repeats the story of that scene from the text of *Beowulf*.

The bottom of the back label reads: "Brewed and Bottled by Calcium City Brewing Co.," my personal brewery, New Bedford, Mass., and the date bottled. (I like to keep track of dates for aging purposes and length

of shelf life. I also can back-reference to determine optimum aging for particular recipes.) My award-winning label, "Sullivan Stout," carries a picture of friend Kevin Sullivan, his face framed with Gaelic linework, and names my brauerei and date. "Monastan Beor," Old English for Moonstone Beer, is written in Runes, the ancient Anglo-Saxon alphabet. Roman letters repeat the name in Old English. The picture is of Stonehenge at night with a rising crescent moon and a star showing through one of the monoliths. The constellation Orion, the hunter, shows above. It is printed in "reverse," with the letters in white and the background in black.

These are just a few examples. If you have something in mind already, it's time to talk to a printer. Scan the Yellow Pages and visit a print shop with your sketches and ideas. The printer can show you a book of type styles to choose from, advise you on the best way to set up your job and give you a price estimate. We charge about \$30 for 500 sheets of 8 I/2-by-II-inch paper, six or nine labels on each or 3,000 to 4,500 total for a cost of about 1.6 cents or less per label. Five hundred labels will last through I0 brewings or more, if you make five-gallon batches and use I2-ounce bottles. If you want fewer labels, duplicate on a photo-



Sullivan Stout. A halftone of a photo is "dropped into" the artwork. This took first prize in a label contest at the Northampton State Fair in Massachusetts.



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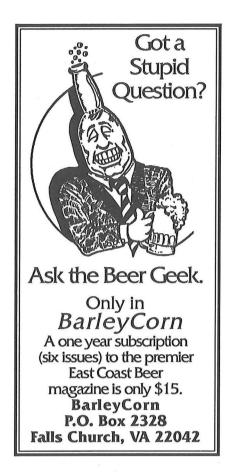
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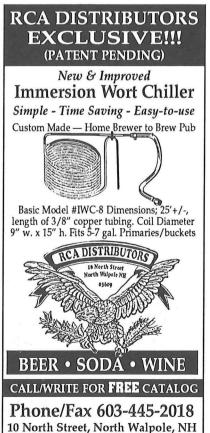


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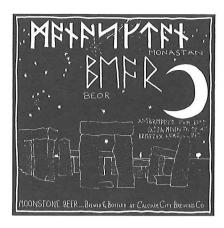
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Monastan Beor (Moonstone Beer) label on left is the positive version, but the image has been reduced to a mezzotint. The right label has been "reversed" by the printer, leaving the letters white and the background in black.

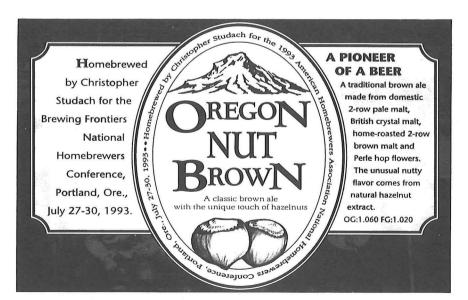
copier. This saves money because it is not economical to operate a press for fewer than IOO sheets.

A printer can add things to your label that you might not think about, such as tints of varying weights and colors. Try using a photo, print dark type over light areas or white type over dark areas.

I say work big and shrink down! The printer shoots your artwork on a camera that can reduce or enlarge. If your finished label will measure two by three inches, make your art four by six. Or go six by nine inch-

es for a 1/3 reduction or even eight by 12 inches for a 25 percent reduction. Remember, the more you shrink your image, the thinner the lines and type will appear. The greater the reduction, the heavier the lines must be in the original art. Photocopiers reduce images, so think about shrinkage before you even begin your design.

The printer can put any color ink you desire on the press. There will be an additional charge for two or more colors, because each requires a separate trip through the press, but one color won't cost extra in most



Oregon Nut Brown Ale label, designed by the Association of Brewers for the 1993 AHA National Homebrewers Conference. This label combines hand drawn illustration with computer photo manipulation and design. The photograph and illustrations were scanned into a computer and output on a laser printer.

Preparing Art for Printing

or the best possible reproduction you need the best possible art — a solid, black image on a white background. The best background is white poster board or coated white paper. Use a permanent ink such as a new, black Sharpie® marker or check your artist supply store. All are available at any art supply shop. Avoid tracing paper and bond paper. Common felt-tip pens do not put down a solid black image. Press-on type is good and comes in a host of styles and sizes.

Work in black on white even if you plan to use colored ink or paper in the final printing. The camera needs to see black and white but the printer can add colored ink or paper.

cases. There are full-color copiers out there but their costs are quite high at even the cheapest copy center. Paper, too, comes in different colors and grades. Dry-gum papers are already coated with water-soluble glue so you just moisten the paper, stick it to the bottle and let it dry. To remove, drop the bottle in a sinkful of water for a few minutes. I like plain paper coated with white school glue (LePage's and Elmer's are good) that also dissolves in water.

For the environmentally conscious, recycled paper and soy-based inks are available. Not all shops have soy inks, but just about every printer can get recycled paper.

Express your pride, brewers! Show off your beer from first look to the bottom of the bottle. Let your friends ooh and aah for a while before you pour it out, point to the wonderful head, extoll the virtues of all malt and fresh hops, and take credit for the "best beer I've ever tasted!" (modestly, of course). And make all those other brewers who don't label extremely jealous!

Chuck Hauck: Sculptor, Brewer, Label Maker

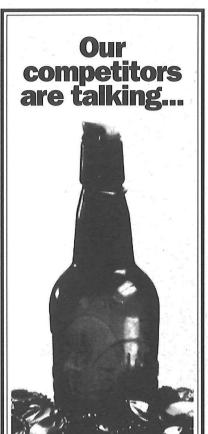
"I drink no beer before it's labeled," says 35-year-old Chuck Hauck. A homebrewer and

graduate of Swain School of Design, Chuck is as tongue-in-cheek as the humor implied by his labels.

He recalls his first beer - and label with compelling accuracy: March I, 1985. His first wort became Rastaman Stout, named after his eclectic band, The Rastamen. "I started labeling right away, waiting for it to ferment. I had to make a label. Just a drawing. I took it down to be copied. They gave me scissors. I copied and cut until I had enough for a full sheet, then laid them out for copying."

Friends helped hand color with watercolor, colored pencils, even crayons. He uses gluesticks to hold the labels on his bottles. "It works fine, as long as you coat the whole back with glue." He assures us it's non-toxic and comes right off in water.

Dana Rowe is a printer, brewer and writer. He is a color separator for the Herald News in Fall River, Mass. Dana prints his own beer labels and is an advocate of labeling. He started homebrewing after tasting a friend's brew. He tasted a brew of a friend. Then the tradition was handed down - Chuck Hauck tasted Dana's brew which got him hooked. Stu Tallman tasted Chuck's beer and the rest is homebrewer-of-the-year history.



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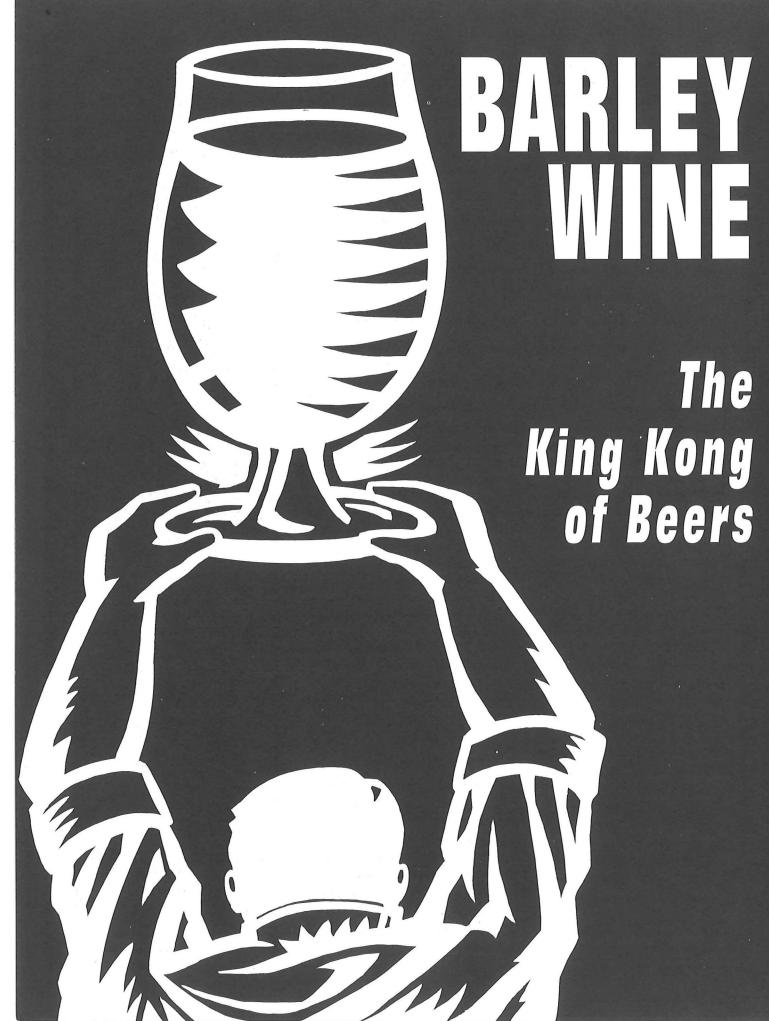
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By Tom Bachman



Homebrewers and beer aficionados find variety and even extremes a virtue, and that is why barley wines are so seductive. Vintage-dated bottles (the year, not the month) and terminal gravities as high as 1.070, are definitely unusual for beer. This seduction has led to growing interest in barley wine ales. Perhaps it should be called a renaissance, since the style may predate most of the styles we drink today. Barley wines are special; they are meant to be sipped during contemplative or even romantic moments.

"Barley Wine Ale" is a recent marketing moniker. It was appropriately created to differentiate this extreme style from the myriad of other British ales. In fact, today's barley wine ales were the standard ales of yesteryear. Called strong ale and still common in the 19th century, they nearly faded into oblivion this century. Fred Eckhardt's Essentials of Beer Styles (Fred Eckhardt Associates, 1989) notes a 1805 Burton Strong Ale by Richardson (12 percent alcohol by volume) and a 1889 Worthington Burton (9.8 percent). Michael Jackson gives credit to Catherine the Great in the late 18th century for nurturing the style with her thirst for imperial stout. Most would agree the style's resurgence was seeded by the introduction of Eldridge Pope's Thomas Hardy Ale in 1969.

For those of us who have tasted this remarkable beverage, the name barley wine ale surely conjures up the image of something quite different. The first word uttered after a sip of a barley wine usually is "wow!" The flavor profile is dominated by the enormous, almost chewy malt flavor and the warm glow of alcohol. Though usually highly

hopped, typically bitterness is barely perceivable over the intense malt and alcohol. However, hop flavors and aroma can be significant. Being an ale and quite often aged for significant lengths of time, interesting complex fruity esters often are present. As for appearance, the color of barley wines ranges from copper to medium brown while the head is often anemic. Legs or lace reminiscent of a sweet sherry are not unusual.

For the more analytical, Table I from Charlie Papazian's Beer Style Guidelines published in the 1992-93 North American Brewers Resource Directory (Brewers Publications, 1992), puts a quantitative perspective to the profile of barley wines. Only a few other beer styles approach the initial gravity and alcohol level of barley wines: Belgian strong ales like the trippel, also eisbock, Scottish wee heavy and imperial stout. While most consider the latter a distinct style, Michael Jackson and Dave Line see imperial stout as a dark barley wine rather than a strong stout. The trippel and eisbock straddle barley wine in color and have much lower hop bitterness as well as hop flavor and aroma.



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This wide range of original and terminal gravities and hop rates has led not to a continuum of fuller bodied, comparably balanced barley wines, but rather to three distinct subcategories (as yet unrecognized by the AHA). The first I will refer to as "traditional," because it is typified by Thomas Hardy Ale (as well as Old Foghorn). This style has a high initial and terminal gravity, but is on the low end for hop bitterness, flavor and aroma. This combination clearly results in a flavor profile that is dominated by malty and caramel sweetness. The second, "balanced," strives to keep the malt, bitterness and hop flavors and aroma in balance, i.e., high initial gravity requires high hopping levels. It is typified by Big Foot. The final, "welterweight," typified by Old Nick, also is well-balanced but starts with a gravity on the low end of the range and usually includes sugar which boosts the initial gravity but keeps the body and maltiness under control.

Where does all that initial gravity come from? The answer is obviously malt and lots of it. To be true to the history of the style, most of the extract should be from English malt, whether liquid extract, dry extract or grain. Four of the six award-winning barley wine recipes in the Winners Circle (Brewers Publications, 1989) also made extensive use of specialty malts, typically 10 percent to 15

percent. The types of specialty grain covered the gambit, including crystal, wheat, toasted, Munich, roast, black and chocolate.

Is it possible to have too much malt? The Thomas Hardy Ale label claims the use of only malted barley, water and hops. A survey of seven micro- and pubbrewed barley wines by Don Hoag (zymurgy Winter 1990 Vol. 13, No. 5) did not identify the use of sugar to bump up the gravity. Nevertheless, Dave Line and Dave Miller advocate achieving 15 percent of the extract from brown sugar. The award-winning barley wine recipe of Byron Burch and Nancy Vineyard in Winners Circle uses 30 percent corn sugar. Normally serious homebrewers abhor the addition of sugar to "real beer," pointing to inevitable watered down, tasteless results. However, a beer with three or more pounds of malt per gallon is not going to have a watereddown quality. In fact, if you are after a barley wine that is not so enormously malty and is ready to drink sooner (a relative term for barley wines), the addition of some sugar is a good idea.

If you are brewing from concentrates, you can get the right gravity in your wort just by adding lots of malt. If your wort is to be derived primarily from whole grain, there are two approaches. The traditional approach uses a fast, low-volume sparge with the collection of only a high-gravity wort. The other,

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BARLEY WINE STYLE GUIDELINES

Original Gravity 1.090 - 1.120**Terminal Gravity** 1.024 - 1.032 Alcohol (volume %) 8.4 - 12Bitterness (IBU) 50 - 100 Color (SRM) 14 - 22 Color copper to medium brown Bitterness perception Hop flavor Hop aroma

medium to high low to high low to high medium to high low to medium

Comments: malty sweetness, alcohol evident

Ester perception

Diacetyl perception

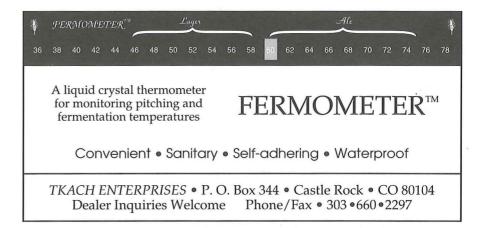
more economical approach, is to sparge for efficiency, collect a large volume wort and then boil for an extended period to get the right volume and gravity. The prolonged boil creates extra caramelization with significant impact on the flavor profile. However, the most commonly practiced approach is a hybrid. This involves bumping up the gravity of a normal-strength grain wort with malt extract. The latter gives the homebrewer the opportunity to create a complex mash with interesting specialty grains without having to run three mashes, find a giant mash tun or boil for hours.

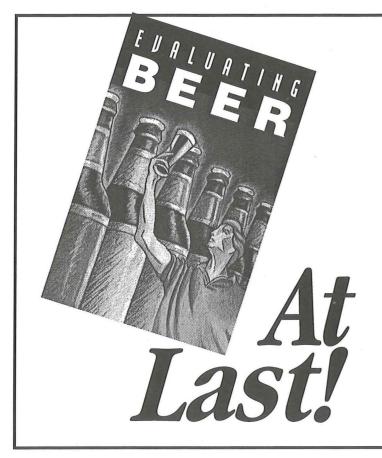
To be true to style, hops should be of English heritage, such as Fuggles and Goldings. Interestingly, it is quite likely that the original version of barley wine predated the use of hops in England. The high alcohol performed an essential function of accommodating longer storage and reducing spoilage. However, the profile of modern barley wine ales includes hops. Because hop heads will be hop heads, the range of hop varieties used in barley wines is extensive. The winning recipes in *Winners Circle* included Bullion,

Northern Brewers, Brewers Gold, Cluster, Golding, Cascade, Tettnanger and Haller-tauer. Clearly, you can create a beer consistent with the style using about any type of hop.

Bittering hop additions must be massive to keep the malt sweetness from being cloying. Papazian's Beer Style Guidelines call for 50 to 100 International Bittering Units. This seems like a lot (for those of you not used to IBUs, Samuel Smith's Pale Ale is only 25). The amount is actually more because alpha-

acid utilization (bittering) is reduced in high-gravity boils. To provide some perspective about the quantity, let's switch to Homebrew Bittering Units (HBUs). For a five-gallon brew on the low end (gravity and bitterness) that amounts to 13 HBUs and on the high end 30 HBUs. Remember if you use flavor hops midway through the boil they contribute to the bitterness, too (about half as much). For more information on calculating hop bitterness, refer to the excellent article by Jackie Rager, "Calculating Hop Bit-



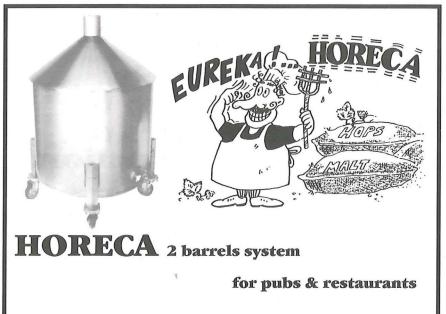


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Send \$3.00 for complete story and catalog. Pierre Rajotte 5639 Hutchison, Montreal, Qc H2V 4B5 (514) 277-5456 terness," in *zymurgy* Special Issue 1990 (Vol. 13, No. 4), or refer to the Homebrew Bittering Units explanation in this issue's "World of Worts" column.

Some sort of flavor and aroma hopping usually is appropriate. All six of the Winners Circle and six of the seven pub- and microbrew recipes called for flavor-aroma hops. The intensity and character that these hops have on the final brew will vary with time in the boil and quantity of hops. With the strong malt flavor and the need for longer aging it's hard to use too much. For a fivegallon batch, one to two ounces at the end of the boil or in the primary seems to be the usual. This is frequently augmented with another two to four ounces midway through the boil. To put all this hoppiness in perspective this could easily total 10 ounces of hops (bittering, flavor and aroma) for a fivegallon brew.

As is the case with most classic beer styles, the characteristics of the brewing water are reflected in the amount of dark and highly roasted grains used in the grist. The lighter the grist, the harder the water has to be to achieve a reasonable pH for mashing efficiency. Thus, Dave Line suggests hard water for barley wine and soft water for Russian imperial stout. If you are mashing you can adjust the pH to the appropriate level. Otherwise, a pack of Burton salts added to your brew kettle probably will get you in the right range, unless your water is already hard.

The apparent attenuation and terminal gravities of barley wines vary quite a bit as seen in Table 2 (derived in part from Fred Eckhardt's *The Essentials of Beer Style*). For these commercial beers the differences are a reflection of three things: the temperature of the mash (higher temperature mashes yield more unfermentable dextrins), the addition of sugar (which is totally fermentable) and the type of yeast. For the homebrewer the temperature of the fermentation and health and handling of the yeast also are factors.

Many barley wine recipes call for Champagne yeast, the theory being that this yeast tolerates the higher alcohol and initial sugar in the wort. The recipes in *Winners Circle* were split but there was no obvious difference in attenuation based on type of yeast used. Hoag's survey of pub- and microbrewed

Homebrewers Explore Brewing Frontiers



By Eric McClary

bout 20,000 years ago, the first settlers found their way over the Alaskan land bridge to the Oregon coast where they were rewarded with a bountiful harvest from the region's sea and soil. Another wave of Oregon pioneers was heralded by the Lewis and Clark expedition of 1805, confirming the terrific bargain of President Jefferson's vast Louisiana Purchase. The record-smashing 597 attendees of the 1993 AHA Brewing Frontiers Conference flocked to Portland in the same pioneering spirit. Their reward, equally bountiful, came in liquid form.

"We've come a long way in 15 years, and I'd have to say we're going to go a lot further," Association of Brewers Pres-

ident Charlie Papazian told the crowd in his opening comments, alluding to the American Homebrewers Association's 15th anniversary. "I look forward to the things yet to happen in the beer revolution."

The speakers who followed,

each a pioneer of the craft-brew renaissance, continued the theme of discovery. Greg Noonan, author of *Brewing Lager Beer* and *Scotch Ale* (Brewers Publications, 1986, 1993), observed, "The microbrewery trend has followed the lead of homebrewers." Looking sharp in his redframed, horn-rimmed specs, Noonan also praised the host state of the 1993 Conference; "Oregon is light-years ahead

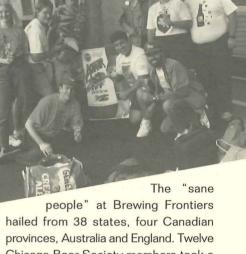
of the rest of the country in its awareness

of beer styles."

"We are in the infancy of the development of beer in America," agreed Charles Finkel, founder of the influential beer importing firm Merchant Du Vin. He said that his company targets homebrewers because they are always looking for a "reference of quality" in any traditional beer style. Finkel amused his audience with anecdotes from the provincial liquor trade of 30 years past.

"An important aspect of beer is that it makes you digress," quipped superstar beer scholar Michael Jackson as he launched into a characteristic "digression." His meandering but entertaining talk stressed the artistic and communal aspects of brewing. "Giving people food and drink is a way of showing love for them," he said. Jackson also countered

the public image of the homebrewing community as a group of eccentrics; "We are the sane people," he asserted. "It's the people out there, drinking light products and worrying about their waistlines who are mad." Jackson's AHA Conference visit, his first in three years, was sponsored by Oregon brewery-equipment supplier J.V. Northwest.



people" at Brewing Frontiers hailed from 38 states, four Canadian provinces, Australia and England. Twelve Chicago Beer Society members took a two-day "Crazy Train" ride to the Conference. Originally intending to brew on the trip, the group decided instead to simply ferment. Among other things, they spent the time sampling 20 brands of beer and eight gallons of homebrew as well as designing a custom label for a new-found friend — a Kathy Ireland stand-up. "It all ran together," described Steve Hamburg, "You didn't know if it was daytime or nighttime — but you always knew it was beertime!"

Optional preconference activities at the Marriott included an Oregon ale tasting conducted by six local microbrewers. "The craft-beer market is growing as fast as the Oregon brewing industry," said Fred Bowman of Portland Brewing Co., as he poured his MacTamahan's Scottish Ale. All the brewers were quite forthcoming in answering questions about their brewing specifics. Christian Krogstead of McMenamin's seemed to speak for all the Oregon brewers when he said, "We



don't imitate European styles too closely," explaining that his Edge-field Kölsch was actually "kölschinspired." Rogue Brewery's Old Crustacean Barley Wine vied for "biggest" of the tasting with Full Sail's Top Sail Porter, described by brewer John Harris as an "imperial porter."

Meanwhile, Greg Noonan's water workshop allowed participants to run various analytical tests on samples of their brewing water. In Charlie Papazian's popular "apprentice beer judge lab," aspiring judges practiced evaluating samples of different styles using the AHA scoresheet.

For most Conference-goers, the funpacked odyssey of discovery began with Tuesday night's Jambeery, a chance for some 60 homebrew suppliers, tinkerers and clubs to strut their stuff (see sidebar). If the homebrews provided by the clubs weren't enough, Conference-goers could choose from an astonishing array of donated commercial craft brews. Celis White from Celis Brewing Co. in Texas, Vermont Pub Brewery's Wee Heavy, Leavenworth Brewing Co.'s Friesian Pilsener from Washington, Glen Scooter's Scottish Ale from CooperSmith's in Colorado, Mad River Brewing's Jamaica Red from California, Stoudt Brewing of Pennsylvania's Double Honey Maibock, Woodchuck Cider from Jos. Cerniglia Winery in Proctorsville, Vt. and Umpqua Wheat from Unpqua Brewing Co., in Roseburg, Ore., were just a few of the exotic options.

Conference Beer Manager David Edgar revealed that more than 800 gallons of beer were donated by breweries

for this event, including 30 different draft beers and 100 cases of bottles.

Toting innumerable kegs and jockey boxes around by hand truck, Edgar and assistant Phil Fleming did an admirable job of keeping the beer flowing.

The educational portion of Brewing Frontiers began in earnest on Wednesday afternoon and continued through Thursday with a rotating series of a dozen "Trail-Blazing Seminars." Frank Com-

mandy of Widmer Brewing gave complete guidelines for brewing the poorly understood hybrid styles, alt and kölsch. Teri Fahrendorf, brewmaster at Eugene's Steelhead Brewery, sobered the crowd with her bleak yet informative analysis of finding jobs in the brewing indus-

try. "Brewgal Gourmet"

Candy Schermerhorn cheered the brewers up again with her recipes and samples of sauces containing beer.

Randy Mosher began his presentation with the famous German maxim, "Eff ist nichte broken, don't gefixen it," then went on to describe ingenious gadgets for improving one's brewing. Meanwhile, Bill Ridgely and Wendy Aaronson bent the brewing pioneer's path into a cosmic loop with their "Adventures in Chicha and Chang," an investigation into indigenous brewing styles of ancient origin. Local trail-blazing brewer, Fred Eckhardt, discussed the intricacies of saké. Equally fascinating seminars were conducted by Alfred Haunold, Micah Millspaw and Bob Jones, John Harris, Joe Power and Dave Radzanowski, Kurt Denke and Dave Logsdon.

So little time, so much to do! Yet the busy Conference schedule did provide a

couple of holes for independent exploration. Those who got out during the day received a blessing of rare Portland sunshine, highlighting the riches of this beautiful city. For nightlife, most homebrewers focused on the dozen or so brewpubs located in the Portland area.

Judges for the National Homebrew Competition had their work cut out for them. A record 2,740 entries had been narrowed to 325 during the regional elimination rounds. It was the task of more than 100 Beer Judge Certification Pro-

gram judges to select the

top three brews in each of 26 categories. Although there were inevitable taste disagreements, the three-hour session ran smoothly, according to second-round competition organizers Thom and Diane Tomlinson.

The most dramatic part of the competition came during Wednesday's open best-of-show session. Best-of-show mead judges Paddy Giffen, Randy Mosher, Rob Bates and Eric McClary had a rela-

tively easy time choosing between only two categories. By contrast, best-of-show beer judges Ray Daniels, Roman Davis, Brook Ostrom and Ed Busch each tasted 26 beer styles to determine a winner. The two-hour session took place before a small audience.

The judges' intense concentration was interrupted by moments of levity, such as when an audience member asked if it was imperative for a best-of-show judge to have a beard. At first, beers were eliminated rapidly. The Munich dunkel, winning category of the last two competitions, lost its chance for a "three-peat" early on. The process slowed progressively as the options decreased.

Most of the debate centered around two specialty beers: a jalapeño Pilsener and a smoked "wee heavy" Scottish ale. All the judges praised the chili beer for (continued on Insert page 3)



its impeccable balance, but a couple wondered if the underlying Pilsener was hopped well enough for the style. In the end, the nod went to the wee heavy, which was "wee" in name only.

Other work was being accomplished behind the scenes. The AHA Board of Advisers and the Beer Judge Certification Program Committee met in separate closed sessions to discuss their respective programs.

The culmination of the Conference was Thursday night's awards banquet, dubbed by some fevered imagination "Vittles, Victories and Beer: The Final Frontier." That old rascal Papazian just made it in time for the proceedings, his wagon careening into the ballroom at full tilt as he urged his "horse" on with his whip. Banquet participants witnessed a historic changing of the guard, as Papazian handed over the AHA reins to its new president, Karen Barela.

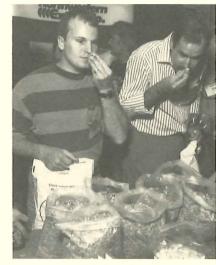
Each course of the gourmet menu, created by Schermerhorn, was accompanied by specially selected beers. The hit of the evening was the dessert, a par-

fait of white and dark chocolate mousse, created to accompany the 1993 commemorative beer, an Oregon Nut Brown Ale homebrewed by Christopher Studach of Eugene. Studach made 80 gallons of this exquisite nectar, a rich brown ale laced with Oregon hazelnut extract, especially for the Conference.

The co-directors of the Beer Judge Certification Program, Pat Baker and Jim Homer, recognized 12 judges who recently reached the National level of achievement, each receiving a silver pin. Three others, Keith Symonds, Tom Ayres and Jay Hersh, achieved the Master level and received gold pins.

The AHA Recognition Award, given each year to a person who has made outstanding contributions to the homebrewing community, went to David Logsdon, founder and president of Wyeast Laboratories in Mt. Hood, Ore. Charlie Olchowski, member of the AHA Board of Advisers, noted in presenting the award that Logsdon's introduction of pure liquid yeast cultures in user-friendly packages has brought about tremendous advances in the quality of homebrewing. The rambunctious crowd greeted Logsdon with a new chant, "Free yeast! Free yeast!"

Finally came the presentation of the AHA National Homebrew Competition awards. The room full of homebrewers was eager for the chance to honor its own. Tension mounted, however, as it seemed that seven-year reigning club



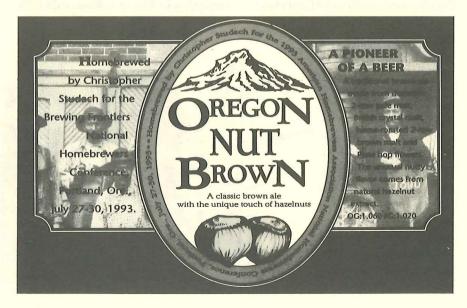
champions, the Sonoma Beerocrats, might lose their title. Beads of sweat broke out on Byron Burch's forehead, and Beerocrats huddled together with clenched fists as the names of one Wort Processor after another were announced. But the challenge fell short. The Sonoma crew even delivered a coup de grâce as member Paddy Giffen won the 1993 Homebrewer of the Year trophy.

Much anticipation surrounded the sponsorship by Pete's Brewing Co. of this year's Ninkasi Award for the individual high-point brewer. Pete's Brewing Co. will select one of the award-winner's recipes as its Wicked Winter Brew. The award went to Walter Dobrowney of Saskatoon, Saskatchewan, who was named 1993 Meadmaker of the Year, leading to speculation that we could expect a Pete's Wicked Mead to appear this winter.

In the two newest competition categories, Jim Long of Sacramento, Calif., was awarded 1993 Sakémaker of the Year and Gabriel Ostriker of Somerville, Mass., earned 1993 Cidermaker of the Year.

As any veteran AHA Conference-goer knows, much of the after-hours action goes down in hospitality suites scattered throughout the hotel. The Beerocrats made up for their transgressions by offering numerous worthy homebrews, including Giffen's best-of-show,

smoked wee heavy, to visitors in its palatial 14th-floor suite. The Oregon Brew Crew maintained their hospitality salon on the



ground floor, while the fifth floor quickly became known as "party central." I'm proud to say that my own club, the Washoe Zephyr Zymurgists, upheld its reputation for never having too much fun.

End of adventure? Not quite. While the official AHA Brewing Frontiers Conference ended Thursday night, many participants ventured "beyond the frontier." Twenty-three hardy souls showed up for the BJCP exam Friday morning, others stayed the weekend to attend the optional Siebel Institute Short Course in Brewing and everyone who possibly could stuck around for at least part of the three-day Oregon Brewers Festival at Waterfront Park.

Editors note: The AHA National Homebrewers Conference, BrewStorm '94, will be held in Denver, Colo., June 22 through 25, 1994. Complete details will appear in the Spring 1994 zymurgy.

Jambeery Highlights



Evolving from the club nights of past Conferences, the two raucous "Jambeery" sessions at Brewing Frontiers combined club displays with exhibits by homebrewing suppliers from around the country. One of the most anticipated products was the Brew Magic recirculating infusion mash system from Sabco Corp., in Ohio. Sabco President Bob Sulier was on hand to demonstrate this \$2,500 "pilot brewery," which employs reconditioned beer kegs, a magnetic drive pump and microprocessor thermal control. At the other end of the room, The Modern Brewer of Cambridge, Mass., offered an alternative for budgetminded brewers. "It's attracted a lot of interest here," said Jeff Pzena of Modern Brewer's multistage programmable mash system using Cornelius kegs.

Counterpressure bottle fillers, roller mills, recipe-design software and various forms of party beer dispensers were among the brewing gadgets being touted. One simple device with a lot of potential was the "Carbonater" from Draft

Beer to Go of Narcoosee, Fla. Inventor Tom Moench showed how his one-piece valve coupling could help pressurize and force-carbonate beer inside a standard PET bottle (the big plastic bottles in which soda pop is sold).

Dave Wills, whose Freshops company in nearby Corvallis has been supplying homebrewers for years, brought some super-fresh hop cones to rub our noses in. Another local pioneer, F.H. Steinbart Co., invited brewers to the 75th anniversary celebration of its Portland homebrewing supply house.

In addition to the Association of Brewers, with its ever-growing lineup of Brewers Publications books, other publishing efforts were on display. The fledgling Oregon-based periodical *Brewing Techniques* handed out copies of its second issue. Andrew Graham traveled all the way from Melbourne to show *Ausbeer*, magazine of the Amateur Brewers Association of Australia. And Lone Mountain Designs of Silver City, Nev., unveiled an informative line of brewpub maps keyed to various regions of the United States.

A somewhat less commercial but equally exciting aspect of the Jambeery was the participation of 11 homebrew clubs from Washington, Oregon, Nevada, California, Colorado, Illinois, Virginia and New Jersey. Clubs offered sample copies of their newsletters as well as merchandise such as T-shirts, glasses and pins. Ken Fisher of Portland represented the nine-member Grateful Deaf Home-

brew Society. He explained that aside from being homebrewers, his club is working to expand opportunities for the hearing impaired in the brewing industry.

Most important, club beers proved that homebrewers are still expanding the brewing frontiers. Basmati Pilsener? Wild rice rye ale? These brews and ginger-apple mead, cherry ale and rosemary rye ale gave jaded palates a tantalizing taste of new possibilities.



Of course, there also were excellent interpretations of such traditional styles as Märzen, California common, porter and Belgian dubbels and trippels.

Even with two sessions totalling 6 1/2 hours, hitting all 60 of the exhibitors was a tall order. Many participants were content to spend time chatting, sipping beer and getting to know one another. Expanding one's personal brewing frontiers through this kind of social interaction was what the Jambeerys were really about.

Eric McClary has made beer and wine at his Nevada home for 11 years and is vice-president of the Washoe Zephyr Zymurgists. A former retailer of wine, cheese and homebrewing supplies, Eric is a brewer and partner in Great Basin Brewing Co., a brewpub opening in Sparks, Nev. this fall.



barley wines found the use of only ale yeast. I have had good luck with either and have settled on using both for no good reason other than habit. I do not use a starter for my barley wines, and my lag phase is always less than 24 hours. I rehydrate a pack of Champagne yeast and ale yeast in warm water during the wort boil. I do aerate the wort several times during the lag phase by shaking the carboy. The best temperature for fermentation is between 60 and 75 degrees F (I5.5 and 24 degrees C). Hoag's survey found that primary fermentation lasted between one and three weeks and secondary fermentation from two to I2 weeks.

As with all beers, care should be taken to minimize contact with oxygen when racking and bottling. This is especially important with barley wines for two reasons. First they are intended to have a long shelf life. The second reason is more subtle. Because of the high alcohol, the fermentation in the bottle is slow and the excess oxygen is not scrubbed away as fast as in bottle conditioning of lower alcohol beers.

Aging barley wines is important, and while 12 weeks in the secondary before bottling may

seem long, it is not extreme. The *Celebrator Brewspaper* recently noted a special commemorative Ballantine's Burton Ale that was aged in wood for 14 years and then bottled. After 20 years in the bottle a tasting found the beer to be "amber colored, with rich barley wine nose, quite Madeiralike with sur-

prising effervescence." So do not worry about aging your barley wine too long in the secondary or the bottle.

Typically barley wine will clear and be ready to bottle in about a month. I recommend cane or corn sugar rather than malt for priming to encourage bottle fermentation in the

TABLE 2

APPARENT ATTENUATION AND TERMINAL GRAVITIES OF BARLEY WINES

Beer	Initial Gravity	Terminal Gravity	Apparent Attenuation
Anchor Old Foghorn Bridgeport Old	1.105	1.032	70%
Knucklehead	1.092	1.024	73%
Sierra Nevada Big Foot	1.102	1.019	81%
Thomas Hardy	1.127	1.024	81%
Young's Old Nick	1.084	1.028	67%

(*Editor's note: Final gravity figure from Importer.)

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high-alcohol environment. Use oxygen-absorbing caps to help prolong life. In addition, if you have the flexibility I would store recently bottled barley wine at room temperature rather than cellar temperature for about a month. Young barley wines taste very good after about three months, great after one year and will just keep on getting better. I strongly recommend a complete quarantine for three months and saving more than half for a full year. Whatever self-control you can exercise will be rewarded.

Enough of the generalities, "let's cut the

shuck and jive" and get to the important part, recipe formulation. First you will need about 20 pounds of fermentables if you are using mostly grain and 12 to 15 pounds if you are using concentrated extract per five-gallon batch. The bulk should be paler malts, either grain or concentrate. The balance should be made up of up to one pound of corn or brown sugar and two to four pounds of specialty grains. The specialty grains will determine the color and subtle flavors behind the maltiness of the barley wine. A pound of dark crystal and one-half pound of highly

roasted grain (roast, black or chocolate) are enough to reach the upper end of the style's color range. This will result in a mediumbrown beer with the associated caramel flavors. If you are after a lighter color and less caramel, 11/2 pounds of light crystal and 11/2 pounds of toasted or Munich malt would be about right. In addition, a pound of malted wheat will help with the head retention and add a spicy note in the absence of strong caramel flavors.

For the initial addition of hops, five ounces of Fuggles (4 percent alpha acid) or less of a high-acid bittering hop like Bullion will get in the middle range of bitterness. A nice hop flavor and aroma can be achieved by using a mixture of Fuggles and Goldings and adding two ounces 30 minutes into the boil, another two ounces at the end of the boil and one to two more toward the end of the primary fermentation.

Three recipes follow. The first two are my favorites and use a large grain mash bumped up with dry malt extract. The last is a good example of a quick approach.

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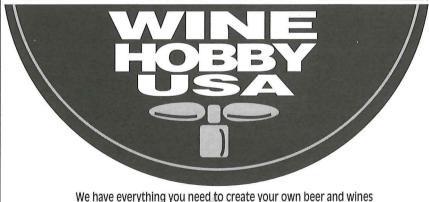
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Gator Tail Ale

This beer was the Inland Empire Brewers' entry into the 1992 "Barley Wine is Fine" AHA club-only competition.

For five gallons:

- 3 pounds Klages malt
- 2 pounds pale malt
- 3 pounds mild malt
- I pound Munich malt
- l pound light crystal malt
- l pound dark crystal malt
- 1/4 pound roasted malt
- 1/4 pound chocolate malt

- 1 pound wheat malt
- 6 pounds dry light malt extract
- ounces Fuggles (60 minutes)
- ounces Fuggles and Goldings (30 minutes)
- 2 ounces Fuggles and Goldings (five minutes)
- ounce Fuggles and Goldings 1 (dry hop)
- OG: 1.101
- FG: 1.035

Mash all grains using single-step infusion at 149 degrees F (65 degrees C) for two hours. Boil wort for 60 minutes or until cooled wort is 1.101 O.G. Cool wort and pitch rehydrated ale and Champagne yeast. Bottle after three weeks with 3/4 cup corn sugar. Tasting notes (after 18 months): medium brown color, pronounced caramel flavors, good balance of hop bitterness and sweetness, medium-bodied for style (the hop flavor and aroma jumped out of this for the first six months).



Monster Malt

For five gallons:

- 3 pounds Klages malt
- 5 pounds pale malt
- 2 pounds toasted malt
- 2 pounds light crystal malt
- 1/4 cup roasted malt
- 1 pound wheat malt
- pounds dry light malt extract
- ounces Fuggles (60 minutes)
- OG: 1.111
- FG: 1.035

Mash all grains using single-step infusion at 150 degrees F (65.5 degrees C). Boil wort for 60 minutes. Cool wort and pitch rehydrated ale and Champagne yeast. Bottled after eight weeks with 3/4 cup corn sugar. Tasting notes (after 18 months): deep golden color, very sweet malty flavor, also spicy note with no hop bitterness or flavor noticeable.



Bulldog Bite

For five gallons:

- 3 boxes Yellow Dog amber extract (9.9 pounds)
- 11/2 pounds toasted or Victory malt
- 1 1/2 pounds dark crystal malt
- 1 1/2 pounds dark brown sugar
- 6 ounces Fuggles and Goldings (60 minutes)
- ounces Fuggles and Goldings (30 minutes)
- ounces Fuggles and Goldings (dry hop in primary)
- OG: 1.090
- FG: 1.025

Steep grains in a bag in the brew kettle until water reaches 180 degrees F (82 degrees C). Remove grains and boil the extract for 60 minutes. Cool and pitch rehydrated ale and Champagne yeast. Bottle when clear with 3/4 cup corn sugar. Tasting notes: light brown color, interesting blend of toasted and caramel maltiness. Hop aroma strong when young, but fades with age. Good balance of bitterness and maltiness.

Tom Bachman is a business development consultant specializing in new medical products technology. A member of the Inland Empire Brewers and the Lake Arrowhead Beer Hunters, he has been fermenting grapes for more than 20 years and malted barley for 10, focusing high-gravity beers. He considers anything with an initial gravity below 1.065 a "light beer."





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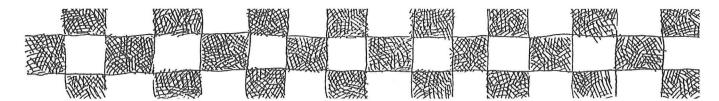
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Chili Beer

by Karl Bremer

Homebrewers are hot for chili beer. A chili pepper beer took first place in the American Homebrewers Association 1992 National Competition herb beer category. My own chili beer brought home a gold medal in the Minnesota Brew Fest 1992 Competition in October.





he secret to concocting chili beer is to achieve a distinct yet subtle pepper flavor without overwhelming the delicate flavors in your brew. Too often the end result is so fiery it demands a regular beer chaser just to cool down.

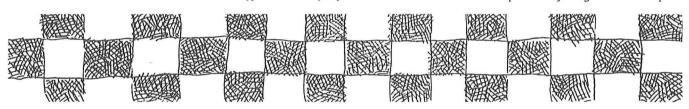
Any type of chili pepper can be used to brew beer: jalapeño, serrano, Thai, cayenne, habanero or whatever grows best in your garden. Each type of pepper, however, varies in the degree of heat it generates. And chili peppers come in all sizes, throwing in another variable.

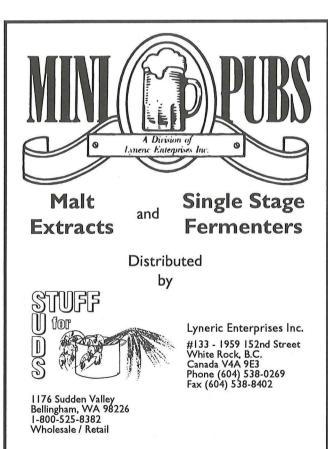
But there is a way to calculate how many peppers you'll need for a perfectly balanced beer no matter what the variety or size.

Devein and deseed two peppers of the type with which you plan to brew. Add them

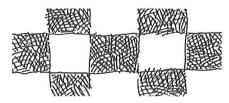
to one quart of boiling water and boil for 10 minutes.

Cool the water and taste it. Too hot? Repeat the test using only one pepper. Too mild? Go for three peppers. Keep trying until the spiciness is just right. It shouldn't pro-









duce a burning sensation, just a pleasant warm glow. To maintain the proper ratio, multiply the number of peppers used times 20 (five gallons equal 20 quarts) and that should be the number of peppers you'll need for a five-gallon batch.

Prepare your peppers before you start brewing. Add them to your wort 10 minutes before the end of the boil.

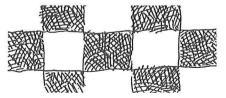
Remember to wear rubber gloves when handling peppers and wash your hands and gloves with soap and water before touching anything else. If you do get burned from the highly persistent pepper oils, a good remedy reportedly is Preparation-H!

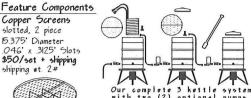
Chili beer goes great with, well, chili. And it's the perfect complement to a shot of fine tequila.

Chili beer brings a whole new meaning to the concept of "fire-brewed" beer. Just remember to reserve some additional space in your garden next spring for the brewing peppers.

Following is the recipe for my award-winning St. Croix Serrano Ale, with a tip o' the hat to the head brewmaster, John Maier, at Rogue Ales Brewery (formerly Bayfront Brewery) in Newport, Ore., for his helpful hints.









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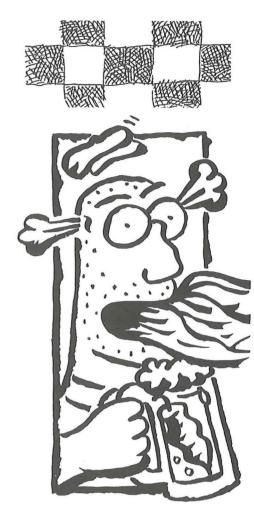
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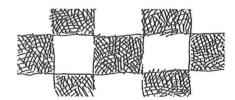
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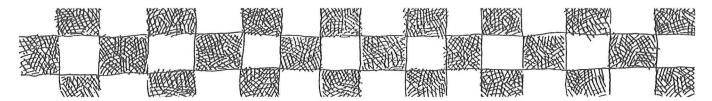




St. Croix Serrano Ale

- B pounds Alexander's Sun Country pale malt extract
- 1/2 pound British two-row crystal
- 1 1/2 ounces Willamette whole hops, 5 percent alpha acid (boil 60 minutes)





- I ounce Willamette hops (boil 40 minutes)
- 4 ounces fresh serrano peppers
 (40 peppers halved, deseeded
 and deveined)
 (boil 10 minutes)
- 1/2 ounce Willamette (boil five minutes)
- 1/2 ounce Willamette hops for dry-hopping three days before bottling

Wyeast European ale yeast

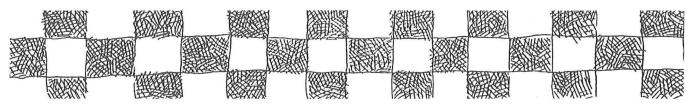
1 1/4 cups light dry malt extract for priming

- OG: 1.055
- · FG: 1.016

Boil malt extract for I hour with I I/2 gallons of water. Crack crystal malt, bring to boil separately with I gallon of water and strain into wort at start of boil. Add hops at prescribed intervals during the boil. Ten minutes before the end of the boil add the halved and deveined peppers loose. Pitch yeast after cooling. Following respi-

ration period, rack into secondary fermenter. Dry-hop three days before bottling by adding 1/2 ounce Willamette hops directly to the fermented beer to fully extract the delicate aromatic oils. Bottle after two weeks. To prime, boil dry malt extract with 2 cups of water, add to sanitized empty fermenter and rack beer one final time before bottling.

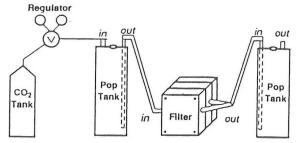
Karl Bremer is a freelance writer in Lakeland, Minn. He also teaches a monthly homebrewing class.



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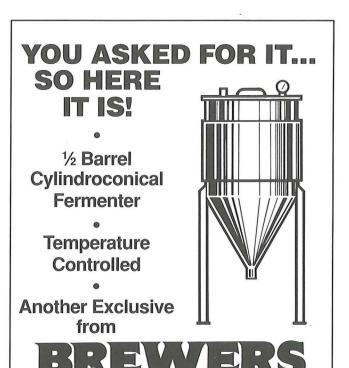
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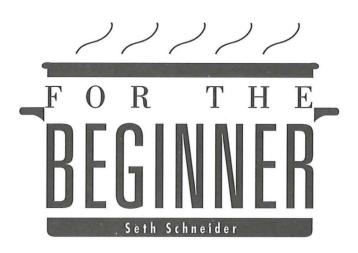
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Points For The New Brewer

fect brew, there are several predictable problem points to overcome. These are, by and large, non-issues, but they are significant to the novice. Moreover, they have little to do with either the essential brewing process or the quality of the finished product. They are of concern primarily because they can cause confusion. Unless the novice is working under the eye of an experienced homebrewer, there are limited sources for immediate answers to the questions that inevitably arise. Some simple answers in advance might help!

Crisis No. 1: "Why did the guy in the shop tell me to do it one way while the instructions on the can say something completely different?"

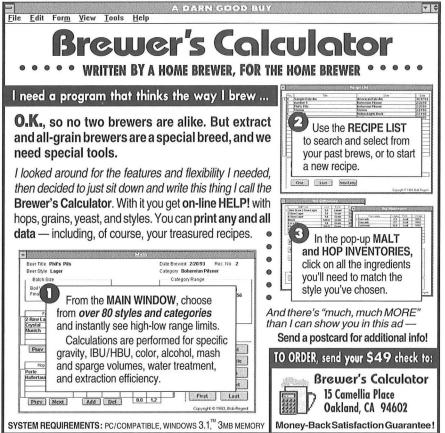
In fact, this is a pretty good question, and goes to the root of the differences between the homebrew markets in the United States and the rest of the world. Elsewhere, homebrewing is a cost-driven pastime. In England and Canada especially, alcoholic products are taxed so highly that the only way many people can afford to drink at all is to make it themselves. That leads to an unfortunate string of events whereby the brewers in those countries often want to do things as cheaply, simply and quickly as possible. They want beer and aren't very particular about its level of quality. In fact, this also explains why they'll make (and drink!) some of the most awful wine kits. Despite moderate (on an international scale) increases in sin taxes in the United States, we remain a country awash in cheap beer and highly potable wines at very reasonable prices. Accordingly, it makes no sense to take the trouble to brew your own if a \$9-per-case brew suits your palate. The homebrew market here is not based strictly on economics, but quality. The fact that a good homebrew should be as good as or better than most of the world's great commercial beers is the driving force for practitioners in the States. Here it's a hobby, not a necessity.

All of this is by way of explanation about why those English or Australian instructions seem a bit silly when they suggest adding about 16 pounds of cane sugar to a three-pound can of malt, or boiling a kettle of water and adding that to the malt instead of doing a full wort boil, or even covering the fermentation vessel with a tea cloth instead of using an airlock. Those methods may work, and may make beer, but will not make beer as good as it can be made. In the United States, we go the extra mile to make great beer.

Crisis No. 2: "Why isn't my airlock bubbling?"

This frequently asked question is a potential sign of trouble, certainly, but most times is not a problem. During fermentation, yeast eats sugar, producing alcohol and carbon dioxide. The fermentation gases must







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go somewhere and, in a closed system, will go out the airlock, producing bubbles. Most of the time, assuming good ingredients and proper procedures, a lack of bubbles through the airlock simply means that the system is not perfectly closed — the gas is escaping somewhere else. Around the lid of the brewing bucket is the most likely place, but leaks around stoppers in carbovs are possible as well. You have to open the lid or look through the carboy to make sure the other signs of fermentation such as foaming, yeast clumps, etc., are visible. If they are, then there's no problem — the CO, can go anywhere it wants to and you can live without airlock bubbles. In the few cases in which no evidence of fermentation is seen, proceed as follows:

- (a) Make sure the ambient temperature of the wort is acceptable for the type of yeast being used, and
- (b) Get another package of yeast, rehydrate in lukewarm water (90 to 95 degrees F or 32 to 35 degrees C) for 10 minutes and repitch. Or make a starter by boiling a cup of water and one tablespoon dried malt extract for five to 10 minutes to sanitize. Cool to 80 to 100 degrees F (26.5 to 38 degress C), add the yeast and repitch.

If these procedures fail, you have a bigger problem and should consult an experienced brewer.

Crisis No. 3: "Siphon into what other bucket? I don't have another bucket, it's two in the morning and my wife says I have to be out of the kitchen by breakfast."

This is a real problem. Many beginner kits have only one bucket. They're great if the retailer adds a carboy to the basic kit, or otherwise equips the new brewer with proper gear. However, a good number of kits do get out there without other stuff being added. This becomes a problem for unsuspecting brewers who have gone into the process believing they have all the necessary tools. The point here is for new brewers to become aware of the brewing process and make sure they have all the equipment needed before starting. Otherwise, surprises tend to crop up at the most inopportune moments. For the retailer, it's important not only for the new brewer to leave with adequate equipment for brewing and bottling, but with quality and complete information that will make the process clear and simple for novice brewers. Anyone who started out bottling by direct siphon and later discovered bottling buckets will understand this point. If you get the bottling bucket the first time around, the first brew is far simpler.

Crisis No.4: "Where do I get bottles?"

Individual or communal recycling is the answer to this typical dilemma. The easiest way is to plan two parties a month apart. First, buy two cases of beer in brown longneck bottles (not screw top). Have a party, drink the beer, rinse and save the bottles, then invite your friends back in a month for the really good stuff. Or, if your state has a recycle law, most recycling centers will be willing to sell matched cases of used empties for the price of the deposit. In fact, many will be willing to collect Grolsch bottles for you in return for deposit fees and a bottle of homebrew now and then! A third method is to visit any bar and ask them to collect a few cases for you. Often these will be free, or nearly free for the price of the deposit and a sample or two. New bottle purchase has always been a last resort.

Crisis No 5.: "How do I wait for that first batch to age?"

Repeat brewers usually have plenty of previous brews on hand to tide them over the waiting period. For first-time brewers waiting for their first taste, we provide several helpful hints:

- (a) While homebrews should bottle age for at least a month prior to consumption, they are susceptible to sampling after a week or so. In fact, it's fun to taste them at various stages and note the changes. Just leave enough to mature so the fully aged brew can be savored!
- (b) Should the waiting period require more than just samples, it's nice to remember that there are worthy commercial brews whose potability approaches that of a good homebrew, at least in emergencies.

Seth Schneider is general manager of Crosby and Baker, homebrew supply wholesale distributors. He is a dedicated amateur boat brewer — on a houseboat in Dartmouth, Mass.



James Spence



all is more than a transition season. It doesn't just mark the end of summer and beginning of winter — it's a season that stands alone, on its own merits. Shorter days and longer nights are ahead. The wind is blowing colder and stronger. As you rake golden and copper leaves on a brisk autumn day, think about the autumn and brewing these strong beers.

These recipes are taken directly from

the brewers' entry forms and are the products of different homebrewers who use different processes and different equipment to craft their brews. Remember, your results may vary.

SMOKED BEER



Classic-style Smoked Beer Smoked Bock Third Place Tom Altenbach Tracy, California Alt 'n' Bock Rauchbock

Ingredients for 10 gallons

- 9 pounds pale malt
- 8 1/2 pounds smoked pale malt
- 1 1/2 pounds dextrin malt
- 1 1/2 pounds amber crystal malt
- 3 pounds dark crystal malt
- 4 pounds smoked Munich malt
- 1/4 ounce Cluster hops, 7.5 percent alpha acid (60 minutes)
- 1 1/4 ounces Perle hops, 7 percent alpha acid (60 minutes)
- 1/4 ounce Cluster hops, 7.5 percent alpha acid (30 minutes)
- 1/4 ounce Tettnanger hops, 4 percent alpha acid (30 minutes)
- 1/4 ounce Tettnanger hops, 4 percent alpha acid (10 minutes)
- ounce Tettnanger hops, 4 percent alpha acid (finish)
 ounce Mt. Hood hops, 3.3 percent alpha acid (finish)
 Wyeast No. 2042 Danish lager liquid yeast culture
 corn sugar for priming

- Original specific gravity: 1.080
- · Final specific gravity: 1.032
- · Boiling time: 120 minutes
- Primary fermentation: nine days at 50 to 55 degrees F
 (10 to 13 degrees C) in glass

E

- Secondary fermentation: 22 days at 50 to 55 degrees F (10 to 13 degrees C) in glass
- Age when judged (since bottling): six months

Brewer's specifics

Mash-in all grains at I40 degrees F (60 degrees C). Protein rest for 30 minutes at I30 degrees F (55 degrees C). Raise temperature to I55 degrees F (68 degrees C) for 90 minutes. Raise temperature to I70 degrees F (77 degrees C) and sparge with I70-degree-F (77-degree-C) water to collect I3 gallons of wort.

Judges' comments

"A little hoppy for bock but it has good body and a decent smoke flavor, not overpowering; a little estery for lager style."

"Alcohol, malty, clean. Nice aftertaste. Not much smoke. A bit too much hop."

"Big and malty, nice work. Malt sweetness evident. Good smoke accent. Sweetness needs more hop balance but not much more. Nice beer."

"Quite nicely done, no major problems. Maybe a touch more smoke. Good brewing. Hops are too full in bock vein."

STOUT



Classic Dry Stout
Third Place
Paul Hale
East Northport, New York
Oast House Oatmeal Stout

Ingredients for 5 gallons

- 7 pounds two-row pale malt
- 1/2 pound two-row dextrin malt
- 1/2 pound two-row dark caramel malt
- 1 pound six-row roasted barley

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- pound flaked barley
- 11/8 pounds oatmeal
- cup malted wheat
- 13/4 ounces Northern Brewer hops, 6.8 alpha acid (60 minutes)
 - Wyeast No. 1056 yeast starter from previous batch
- cup corn sugar for priming
- Original specific gravity: 1.052
- Final specific gravity: 1.014
- **Boiling time: 60 minutes**
- Primary fermentation: six days at 65 degrees F (18 degrees C) in glass
- Secondary fermentation: four days at 65 degrees F (18 degrees C) in glass
- Age when judged (since bottling): five months

Brewer's specifics

Mash all grains for 20 minutes at I30 degrees F (55 degrees C). Raise to 155 degrees F (68 degrees C) for 60 minutes

Judges' comments

"Excellent stout. A bit too sweet for dry. Finishes powdery from the astringency. Could use more roasted barley and less dark grain."

"Very good beer. Could use more roasted barley flavor. Excellent flavor. Burnt bitterness is a little harsh."

"Coffeelike flavor is very evident. Very pleasant dryness in mouth in the finish. Just slightly too bitter in the finish."

ENGLISH AND SCOTTISH STRONG ALE



English Old Ale/Strong Ale Third Place Donald S. Gosselin and Gabrielle M. Gosselin Winthrop, Massachusetts Old Buck

Ingredients for 3 gallons

- 2.25 kilograms Munton and Fison malt extract
- 450 grams 40 °Lovibond crystal malt
- IBUs Bullion hops (60 minutes) 34.5
- 1/2 ounce Kent Goldings hops (20 minutes)
- 1/2 ounce Fuggles hops (15 minutes)
- 1/2 ounce Kent Goldings hops (10 minutes)
- 1/2 ounce Fuggles hops (five minutes) Wyeast No. 1028 liquid yeast culture

- · Original specific gravity: 1.072
- · Final specific gravity: 1.018
- · Boiling time: 60 minutes
- Primary fermentation: seven days at 65 degrees F (18 degrees C) in glass
- Secondary fermentation: 2l days at 65 degrees F (l8 degrees C) in oak
- · Age when judged (since bottling): nine months

Brewer's specifics

Steep all grains for 20 minutes at 155 degrees F (68 degrees C).

Judges' comments

"Lots of malt and hops evident here. Nice balance though close to the barley wine style. On the high side of the category with the alcohol."

"Inviting bouquet followed by malty flavor. Very likeable and representative of the style."

"Great beer. Clean. Good, balanced flavor with warm, alcoholic finish. Well-made brew with memorable character. Some hops in the nose would add character."

"Far too hoppy. Lots of malt, hops and alcohol, but with a watery tone. Nice smoothness. Almost a barley wine."

BELGIAN-STYLE SPECIALTY



Belgian Strong Ale Third Place David Suda Boulder, Colorado No. 35

Ingredients for 5 gallons

- 8 pounds two-row malt
- 4 pounds Alexander's pale malt extract
- 1 pound 40 °Lovibond crystal malt
- l pound 90 °Lovibond crystal malt
- 2 1/2 ounces Hallertauer hops, 4.4 percent (60 minutes)
- 3/4 cup molasses added to boil
 Chimay Red liquid yeast culture
- Original specific gravity: 1.079
- · Final specific gravity: 1.019
- Boiling time: 60 minutes
- Primary fermentation: 14 days at 65 degrees F (18 degrees C) in glass
- Secondary fermentation: seven days at 65 degrees F (18 degrees C) in glass
- · Age when judged (since bottling): three months

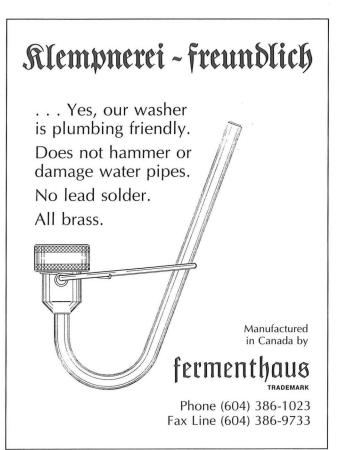


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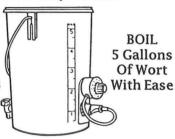
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Brewer's specifics

Mash-in with 14 quarts water at 105 degrees F (41 degrees C). Mash pH 5.3. Protein rest at 123 degrees F (51 degrees C) for 15 minutes, then at 131 degrees F (55 degrees C) for 15 minutes. Raise temperature to 150 degrees F (66 degrees C) for 10 minutes. Raise to 157 degrees F (69 degrees C) for 50 minutes. Mash-out at 168 degrees F (76 degrees C) for five minutes. Sparge with 5 gallons water at 165 degrees F (74 degrees C).

Judges' comments

"Alcohol is a bit hot, maybe some higher alcohols? Watch fermentation temperature — lower is better, 55 to 60 degrees F (13 to 16

"Strength could be complemented by a little more sweetness, but not too much. A great Chimay look-alike. It must save on costs at the liquor store."

"Big cloviness. The sweetness sits just right with the spiciness and fruitiness. But phenolics get the better of my palate."

BARLEY WINE



Second Place Rob Brunner Windsor, Colorado Robert the Bruce

Ingredients for 5 gallons

- pounds Wander light malt extract
- pounds pale ale malt
- pound 20 °Lovibond crystal malt
- ounces British Bold hops, 10 percent alpha acid (45 minutes)
- ounces Centennial hops, 7.5 percent alpha acid (45 min-
- ounces Kent Goldings hops, 5.9 percent alpha acid (finish)
- ounce Kent Goldings hops, 4.8 percent alpha acid (finish) Wyeast No. 1084 Irish ale yeast Vierka Champagne yeast
- cup dextrose to prime
- Original specific gravity: 1.110
- Final specific gravity: 1.034
- Primary fermentation: 10 days at 72 degrees F (22 degrees C)
- Secondary fermentation: 21 days at 60 degrees F (15 degrees C)
- Age when judged (since bottling): 16 months

Brewer's specifics

Steep grains for one-half hour at 150 degrees F (66 degrees C).

Judges' comments

"Overconditioned. Pleasant alcoholic warmness. A very nice beer."

"Right on target. Nice color."

"Hop flavor and bitterness dominate. Some malty sweetness. Alcoholic. Higher alcohols evident — somewhat solventlike. Good beer, not much fine tuning needed here."

"Clean brew. Seems a bit thin for style. A bit more malt could have lessened higher alcohols and given more body."

FLAVORED MEAD



Sparkling Metheglin Second Place Dave Resch Colorado Springs, Colorado Mix and Match Mead

Ingredients for 6 gallons

12 1/4 pounds clover honey

3 cinnamon sticks

11/2 teaspoons ground allspice

11/2 teaspoons whole cloves

3 orange peels

2 1/2 ounces grated ginger

1 1/2 ounces Willamette hops, 5.5 percent alpha acid
Red Star Montrachet wine yeast

3/4 cup corn sugar to prime

- Original specific gravity: 1.072
- · Final specific gravity: 0.996
- Primary fermentation: nine days at 65 degrees F (18 degrees C) in glass
- Secondary fermentation: 40 days at 65 degrees F (18 degrees C) in glass
- · Age when judged: (since bottling) six months

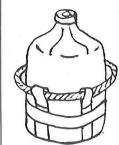
Brewer's specifics

Boil hops with 4 1/2 gallons of water for 35 minutes. Steep all other ingredients for 45 minutes at 180 degrees F (82 degrees C).

Judges' comments

"Clove seems to come to the front and linger well. Cinnamon is there. Alcohol well-balanced, dry. Maybe lacks some honey character."

"Allspice, minty, very clean! Nice balance. Intense, but very drinkable."



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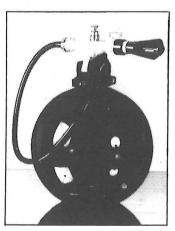
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Doppelbock

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Ingredients for 10 gallons (wort from first runnings of 15-gallon batch)

- 27 pounds lager malt
- 4 pounds dark crystal malt
- I pound wheat flakes
- 4 ounces black patent malt
- 11/2 pounds light dry extract
- ounces Perle hops, 7.6 percent alpha acid (60 minutes)
- ounce Tettnanger hops, 4.2 percent alpha acid
 (30 minutes)
- ounce Hallertauer hops, 2.9 percent alpha acid
 (five minutes)

 Wyeast Munich liquid yeast culture
- · Original specific gravity: 1.076
- Final specific gravity: 1.026
- · Boiling time: 60 minutes
- Primary fermentation: 14 days at 51 to 54 degrees F
 (11 to 12 degrees C) in glass
- Secondary fermentation: 42 days at 35 degrees F
 (2 degrees C) in glass
- · Age when judged (since bottling): one month

Brewers' specifics

Mash all grains for one hour at 156 degrees F (69 degrees C).

Judges' comments

"Low diacetyl okay. Nice sweetness and alcohol balance. Bitterness a little heavy."

"Very big malty aroma and flavor. Slight oxidized aftertaste."

WORLD OF WORTS

Charlie Papazian

Nomadic Kölsch

Is it a lager or an ale?
A wheat beer or not?
Only nomads know for sure.

German ale with origins allegedly in the city of Cologne (German: Köln), Kölsch is a pale beer fermented with ale yeasts, but followed with a period of cold lagering. Somewhat dry and relatively light in body, fully fermented with a bitterness that is not terribly assertive, Kölsch, in comparison to other styles, might be regarded as a mildly bitter "ale - Pilsener." With noticeable effervescence, a subtle fruitiness and attractive foam and head retention, Kölsch is a style that will refresh both lager and ale enthusiasts.

Nomadic Kölsch is a carefully formulated recipe with each ingredient serving a purpose. German-grown hops are preferred, but don't worry and do the best you can. The final carefully fermented brew is sure to be noted in your collection of brewing achievements.

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

Mash-extract recipe for five gallons (19 liters):

For the mash

- 3 1/2 pounds (1.6 kilograms) crushed pale malt
- 1/2 pound (0.23 kilogram) crushed wheat malt
- 1/4 pound (0.11 kilogram) dextrin, light crystal or CaraPils malt

Add to the mash runoff:

3 1/2 pounds (1.6 kilograms) light dried malt extract

And boil with hops to achieve about 30 International Bittering Units:



- 7 Homebrew Bittering Units for bittering. I used 3/4 ounce (2l grams) of 9 percent alpha-acidrated German Northern Brewers whole hops.
- 7 1/2 Homebrew Bittering Units of flavor hops. I used I ounce (28 grams) of 4 percent alpha-acid-rated German Hallertauer whole hops and 1/2 ounce (14 grams) of 7 percent alpha-acid-rated American Spalt whole hops.

 1/2 ounce (28.4 grams) German
- 1/2 ounce (28.4 grams) German Hallertauer hops for aroma

- 2 gallons prechilled water for primary (see note below)
- 7/8 cup corn sugar for 5 gallons (19 liters) if bottled and about 1/3 cup of corn sugar for 5 gallons (19 liters) if kegged

 Düsseldorf Kölsch yeast (KK92) or other German ale yeast liquid lager yeast culture
- Original gravity: 1.040 to 1.044 (10 to 11 Balling)
- Racking gravity: 1.008 to 1.012 (2 to 3 ^oBalling)
- Final gravity: 1.006 to 1.010 (1.5 to 2.5 [°]Balling)

Use step-infusion mash. Begin by adding I gallon (3.8 liters) of I3O-degree-F (54.5-degree-C) water to the crushed grain, stir, stabilize and hold the temperature at I22 degrees F (50 degrees C) for 30 minutes. Add I/2 gallon (5 quarts or I.9 liters) of boiling water and stabilize temperature at about I48 to I52 degrees F (64 to 67 degrees C) and hold for about 60 minutes. Temperature may be allowed to drop from I52 to I48 degrees F (66.5 to 64.9 degrees C) with no worrying.

After conversion, raise temperature to l67 degrees F (75 degrees C), lauter and sparge with I70-degree-F (77-degree-C) water. Collect about 2 gallons (7.6 liters) of runoff, add the malt extract and bittering hops and bring to a full boil.

The total boil time will be about 60 minutes. When 20 minutes remain add 7 1/2 homebrew bittering units of flavor hops. After a total wort boil of 60 minutes turn off the heat and add I ounce (28.4 grams) of aroma hops and let steep two to three minutes before straining and sparging into a sanitized fermenter to which you've added 2 gallons of water. Note: It helps to prechill (33 degrees

F or I degree C) the water added to the fermenter rather than simply adding tap water.

For advanced homebrewers who wish to know the exact bitterness of this recipe, about 30 International Bittering Units were calculated by making the following assumptions: (I) whole hops were used, (2) the wort boil was a concentrated boil with about 3.5 pounds (I.6 kilograms) of extract per gallon (3.8 liters) of liquid boiled, (3) 23 percent utilization was assumed for 60 minutes of boiling and 6 percent utilization was assumed for 20 minutes of boiling.

Beginners and intermediate brewers should relax, not worry and have a homebrew and err on the side of up to 15 to 20 percent more hops (that's a pinch or use pellets instead), but don't worry.

Primary ferment with the ale yeast in a range of 55 to 65 degrees F (I3 to I8 degrees C). Rack your brew after primary fermentation into a secondary fermenter, add lager yeast and lager for three to four weeks at 38 to 48 degrees F (3 to 9 degrees C). The lager yeast will ferment carbohydrates that ale yeast will not.

Prime with sugar and bottle or keg when fermentation is complete.

And take Nomadic Kölsch on your next journey. It makes good company.

HOMEBREW BITTERING UNITS

Homebrew Bittering Units are a measure of the total amount of bitterness in a given volume of beer. 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: $(2 \times 9) + (3 \times 5) = 18 + 15$. Bittering units per gallon would be 3.3 in a 10gallon batch or 6.6 in a 5-gallon batch, so it is important to note volumes whenever expressing bittering units.

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Dry Ice Solution

Dear Professor,

I ran into a problem when I racked my allgrain beer from the primary fermenter to the secondary: after siphoning the beer off the trub, there was not enough liquid to fill the glass carboy, leaving too much head space. After consulting my two mentors, Papazian and Miller (via their books on homebrewing), they gave two possible solutions: add more previously boiled water or give a blast of compressed carbon dioxide or nitrogen to fill the head space and drive out the oxygen. I was not willing to dilute the beer nor was I will-



ing to pay the cost of getting a tank of compressed gas (\$65+). As an alternative, I went to the local ice-cream store and bought some dry ice (about 75 cents per pound). Just before racking the beer I introduced several nickel-sized pieces of dry ice into the glass carboy, allowed about three inches of carbon dioxide cloud to develop on the bottom, then added the beer. The dry ice turned to gas and bubbled up to fill the head space, presumably expelling the air and the threatening oxygen. The carboy was capped and an airlock fitted, with a few bubbles in the airlock indicating that the carbon dioxide went through the airlock. I figured the worst that could happen would be killing some yeast cells and putting some carbon dioxide into solution, both of which occur naturally. The beer tastes great.

Now the questions: (I) In my effort to keep costs down, did I compromise the beer?, (2) Is there another way of solving this problem?, (3) Are there any suggestions on obtaining inexpensive compressed carbon dioxide or nitrogen? and (4) Is the desire to keep the oxygen out affecting my thinking?

Waiting breathlessly, Dick Van Dyke Park Forest, Illinois

Dear Dick,

Way to go, Dick. Great thinking. No compromises have been made. I think the dry ice idea is great. You certainly wouldn't want to put a fizzie or alka seltzer in the brew. Don't hold your breath any longer.

Sigh, The Professor, Hb.D.

Wicky Spigot?

Dear Professor,

I will be using large seven-gallon polyethylene buckets as my primary and secondary fermenters. Knowing the importance of maintaining a sterile brewing environment, I would prefer to use spigots mounted in the buckets rather than siphoning as a means of transferring my brew. In this manner, I hope to avoid exposing my brew to airborne contaminants while removing the lid to collect samples for specific gravity readings as well as avoid direct contamination while immersing a siphon during the transfer process.

I'm planning on placing a sterilized stopper in the end of the spigot between sample collections so the small amounts of brew remaining in the spigot won't act as a breeding ground for wild yeast and bacteria. (I don't want to contaminate my brew with cultures grown in the end of the spigot when I transfer the brew into a priming container.)

Does this procedure sound reasonable to you? Will the nooks and crevices in the spigots be impossible to sterilize properly? Should I succumb to the inevitable and just dip my (sterile) hydrometer cup into my brew and use a siphon to transfer my brew?

Thanks for your help! By the way, I'm relaxed — I'm not worrying and I'll enjoy a homebrew as soon as I make some.

Sincerely, Phil Miller Eagan, Minnesota

Dear Phil,

Your idea is essentially a sound one, but to avoid aeration of the brew as you transfer it by spigot, I strongly advise attaching a hose to the end to lead the beer to the next container. Put that hose to the bottom of the vessel you transfer to. Aeration is a killer of beer.

With regard to corking the end of the spigot, make sure you sanitize it. I recommend swabbing the spigot with a cotton-tipped applicator dipped in grain alcohol. Place a piece of aluminum foil or some such temporary covering over the spigot to keep airborne "stuff" to a minimum while not in use.

And don't ever dip your hydrometer flask into the brew.

Hose it, swab it then cover it up, The Professor, Hb.D.

Forced Carbonation

Dear Professor,

I've really started to relax since using a keg system and I've almost stopped worry-

ing. I'd probably stop worrying entirely if I knew how to carbonate my beer without priming it.

I've been putting 40 psi of CO₂ to the keg then backing off the regulator to 10 psi. It's been hit and miss. I should note that I keep the kegs refrigerated at about 35 degrees F (1.5 degrees C). Please let me know the proper method for carbonating beer without priming so I can be worry free to enjoy a nicely carbonated draft homebrew.

Relaxingly yours, Tom Sushinski Las Vegas, Nevada

Dear Tom,

You're almost there. Having your beer at 35 degrees F (1.5 degrees C) helps a lot. Put about 25 psi in the keg and shake the keg with the pressure on. You should be able to force carbonate within 15 minutes this way. There's no way around it, you'll have to taste test the beer as you feed it carbon dioxide.

Another less strenuous way is to add 25 psi, shut the valve and let the keg sit for a few hours. Keep feeding it CO₂ as the gas gradually dissolves into solution.

Of course there's no worry about stirring up the sediment when you are shaking the keg because there is no sediment after you transfer the clear beer from the secondary to the keg.

Sparkling, The Professor, Hb.D.

Jumpin' Juniper Berry

Dear Professor,

There's a juniper outside our front door just covered with berries that look awfully tempting. We'd like to use the berries to season a beer or two, but we also don't want to wait until October to start tinkering with our recipe. Like most homebrewers, we want

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some incentive for doing such hard work as picking berries, and we want our juniper beer ready to quench our thirst as we go, to remind us why we're out there. We checked our local supermarket and found we can buy freeze-dried juniper berries for \$40 per pound, available all year (Spice Islands brand, although we're sure the whole-food stores carry juniper, too).

We bought a jar of the cute little things, took it home and spent the next half hour inhaling the aroma. For a fact, we've got the jar next to us right now, and it's hard to write this letter because we keep sniffing it! When we finally came back down to earth, we knew we wanted to try to make a real Belgian juniper beer. Not "Jenever," we'll leave the distilling to others. Just a strong beer with a touch of bent character.

Now as you well know, the Right Reverend Michael Jackson writes of a beer called "Dikkenek" from the environs of Brussels. We don't know exactly what Dikkenek is like, but we imagine it might be a transcendental experience to drink. We thought we might eventually make a trippel and spice it. We've considered experimenting by adding Tanqueray gin to beers of different styles to see which ones make the most interesting complement for the berries.

We have just one small problem: ignorance. We don't know how to add the berries to get that lovely aroma. We've brewed, tasted and even judged spiced beers before. Some of them were delightful. Others were not. We've also met a few fruit beers, some of which had plenty of aroma and flavor, others were excellent tests of the taster's detection limits. And we'd like to think that with all the brewing experience out there somebody could share the knowledge and save a lot of fermentables and yeast from the drain, or in our case from the lawn.

In that immortal tome, The Complete Joy of Home Brewing, the wily Charlie Papazian recommends adding "I/4 cup juniper berries (slightly crushed)" to his euphemistically renamed Tumultuous Porter and boiling for 45 minutes. But we're sure you, O Professor, have had a chance to research the matter of juniper in more detail since the early 1980s when that pioneering volume appeared to inspire us all. Please share your knowledge of spice addition!

Must the juniper berries be crushed and boiled? Does a long boil somehow magically prevent the formation of offensive phenolics like "Listerine essence" in the spiced beer? Does a short boil, or no boil at all, fail to extract the aromatic essences from the berries? Since juniper is an aromatic fruit, should it be macerated and added to the secondary fermenter? Are there undesirable elements, like pectins, in juniper berries that should be removed? Can we use the berries from our shrub? When will they ripen and how can we tell? Should we abandon our attempt at making a juniper beer and go back to sniffing the berries?

Naturally, we're keeping the faith: we're not going to worry about the answer. We're going to go ahead and brew with juniper. Much as we hate to do it, we're just going to have to wait and see what kind of *djinn* comes out of the bottle when we open it.

Berry us near Brussels, Marlene Spears and Michael Fertsch Woburn, Massachusetts

Dear Marlene and Mike,

Don't, I repeat, don't abandon your attempts. In my infinite wisdom I recall in some former life, three centuries ago, brewing with juniper berries. They were much more robust in those days, but then my memory is a bit chill hazy these days.

It seems to me that 1/4 cup of crushed berries at the end of the boil to steep for 10 minutes would be fine, but also add another 1/4 cup of crushed berries to the secondary part of the fermentation or the lagering vessel. I'd recommend steeping the berries in water at 160 degrees F (71 degrees C) for 15 minutes before adding them to the secondary. I seem to recall that the berries were coated with a "yeast bloom" white coating. Maybe it's wax, but nonetheless, it can't hurt to zap them for a little while.

Should be a super beer in time for Yule. Yule time juniper!

Send bottle when done, The Professor, Hb.D.

M

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G.W. Kent now offers Yeast Lab liquid yeast cultures in 15 different strains. Yeast Lab liquid yeast cultures are packaged in sterile plastic tubes with instructions for use. All cultures are laboratory tested for purity and each package is marked with a "best before" date. Yeast Lab liquid yeast cultures contain 35 milliliters of highly concentrated liquid yeast in the following strains: Australian Ale, American Ale, London Ale, British Ale, Irish Ale, Dusseldorf Ale, Canadian Ale, Trappist Ale, Pilsener Lager, Bavarian Lager, Munich Lager, St. Louis Lager, California Lager, Bavarian Weizen, Dry Mead and Sweet Mead. Manufacturer's suggested retail prices are \$2.50 each, \$2 each for quantities of 12 of one strain and \$1.75 each for five dozen (minimum of 12 of each strain). To order yeast or brochures call or write G.W. Kent Inc., 3667 Morgan Rd., Ann Arbor, MI 48108, (800) 333-4288.

The Bottle Basket

The Bottle Basket is designed to assist with the moving and maneuvering of carboys. The sides and bottom of the basket are made of galvanized sheet metal, with a handle of polypropylene rope woven together at one point. When the carboy is lifted, the basket tightens around the bottle for added control. When the carboy is placed at rest, rigid sides hold the rope handle up for easy access. Manufacturer's suggested retail prices are \$13.50 for the three-gallon carboy size, \$15 for the five-gallon carboy size and \$16.50 for the 6

I/2- to 7-gallon carboy size. Add \$4 to each order for postage and handling. For information write Good's Homebrew Products, 8704 Hawkins Creamery Rd., Gaithersburg, MD 20882.

FermometerTM

Tkach Enterprises has introduced a liquid crystal thermometer designed for monitoring wort temperatures during pitching and fermentation. The Fermometer™ is designed to be placed on the outside of the fermentation container with a waterproof self-adhesive backing. The temperature range of the Fermometer™ is 36 to 78 degrees F with two-degree increments. Liquid crystals allow one-degree increments to be determined accurately. For information and the manufacturer's suggested retail price write to Tkach Enterprises, PO Box 344, Castle Rock, CO 80I04 or call (303) 660-2297.

Munich Extract

St. Patrick's of Texas has introduced Munich Malt Extract to be used in the brewing of such beer styles as dunkel, bock, doppelbock, Märzen and alt. Produced with a generous dose of Munich malt, Munich Malt Extract can be used alone or as a blend with other extracts and specialty grains to brew authentic versions of German beers. Munich Malt Extract, a blend of Belgian and American malts, is pale in color and unhopped. Manufacturer's suggested retail price for six pounds of extract is \$13. For information call

or write St. Patrick's of Texas Brewers Supply, 12922 Staton Dr., Austin, TX 78727, (512) 832-9045.

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Mini Brewing System

The Minnow homebrewing system produces four liters (a 12-pack) of beer. Packaged primarily as a starter kit for the beginning homebrewer, the size of The Minnow eliminates the need for much of the peripheral equipment required for brewing in the five-gallon format. The Minnow also is useful as a pilot brewing system for testing new recipes, a yeast incubator or it can be expanded for five-gallon brewing. Manufacturer's suggested retail price is \$19.95. For information write The New Bootleggers of America, PO Box 2772, Canoga Park, CA 91306, or call (818) 701-0557.

THE BEST FROM

KITS

Matthew Walles

s with life, I believe the simpler we make homebrewing the better off we are. Step back for a moment from all the complicated machinery you use, ostensibly to make your life simpler, and harken back to that place in time when life's complexities involved only the search for food, fire, shelter and a good mate. Sometimes ingenious inventions complicate life more than simplify it.

Brewing is meant to be simple and enjoyable. Once you build to the point where you are more concerned with the technology than with the beer, you have lost the primal beauty of homebrewing. I am certainly not saying you shouldn't observe responsible brewing procedures, but let's face it, this ain't brain surgery, it's beer! So relax, don't worry, keep it simple (not too simple) and have a homebrew.

I brewed up four six-gallon batches using the new Gold Range homebrew kits from Munton & Fison. I used two Continental Pilsener kits and two Old English Bitter kits and came up with a remarkably diverse amount of quaffable beer.

Munton & Fison Gold Continental Pilsener

I followed the directions that came with the kit, which means I did not boil the wort. The really great thing about this kit is that it's an all-malt beer and needs no extra sugar.

For six gallons:

2 cans (6 2/3 pounds) Munton & Fison Gold Range Continental Pilsener kit

lager yeast (supplied with kit)

3/4 cup corn sugar (for priming)

- · OG: 1.049
- FG: 1.015

Soak extract cans in hot water for five minutes then add the contents to the fermenter. Stir in I gallon boiling water and mix thoroughly until dissolved. Add about 3 I/2 gallons of cold water and bring volume to 6 U.S. gallons. Stir and cool until temperature is between 65 and 70 degrees F (I8.5 and 2I degrees C) then pitch the yeast. Bottle when fermentation is complete. I had a difficult time pouring the warm extract through the

funnel into my fermenter and made a bit of a mess. Yes, this one is simple, but a bit too simple for my tastes. I suggest boiling the wort for at least 15 minutes to make certain all the little nasties are dead.

The finished beer has a beautiful light golden hue, is nearly crystal clear and has a mildly spicy aroma. It is relatively dry, has a mild sulfury character typical of some Pilseners and a touch of maltiness to offset the hops. The good flavor of the finished beer coupled with the fact you need not add sugar makes this an exceptional kit, although I recommend boiling the wort.





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M & F & Matt Gold Continental Pilsener

The second beer I brewed also used the Munton & Fison Continental Pilsener kit. This time, however, I used additional barley malt, hops and liquid yeast to ensure a truly noble Pilsener.

For six gallons:

- 2 cans (6 2/3 pounds) Munton & Fison Gold Range Continental Pilsener kit
- 1/2 pound dry light malt extract
- 1/2 pound CaraPils malt
- 2 ounces Saaz hops

Wyeast Bavarian lager yeast

- 3/4 cup corn sugar (for priming)
- OG: 1.054
- FG: 1.014

Add the cracked CaraPils malt to 2 gallons cold water, bring just to a boil then strain off the spent grains. Add the Pilsener kit and the I/2 pound dry malt extract plus I ounce of Saaz hops and boil for 30 minutes. Cool the wort, add it to the fermenter, top it up to 6 U.S. gallons and pitch the yeast. The beer fermented I3 days at 49 degrees F (9.5 degrees C) then was racked to a secondary fermenter with the remaining ounce of Saaz hops. Bottle with 3/4 cup priming sugar after two weeks in secondary at 38 degrees F (3.5 degrees C).

This Pilsener turned out to be absolutely fantastic with just a kiss of hop aroma from the dry Saaz and spicy overtones from the hops used in the boil. The beer is clear and has a crisp, clean flavor that leaves the palate yearning for more. With a 30-minute boil and the addition of extra malt, hops and liquid yeast, this kit produces a beer that will make virtually any homebrewer glow with pride.

For the final two recipes I used Munton & Fison's English Bitter kit. The first I brewed according to the directions while the second provided me the opportunity to experiment and create and incredible high-gravity porter.

Munton & Fison Gold English Bitter

For six gallons:

2 cans (6 2/3 pounds) Munton & Fison Gold Range Old English Bitter kit

ale yeast (supplied with kit)3/4 cup corn sugar (for priming)

- · OG: 1.046
- · FG: 1.016

I followed the kit directions as detailed in Continental Pilsener recipe. The finished beer had a copper color, light body and the amount of malt flavor one would expect from a bitter. However, the hop bitterness did not come through to balance the malt as I had hoped and the finished beer lacked any hop flavor or aroma. In all, definitely a quaffable beer and, like the Pilsener, I suggest boiling the wort for at least 15 minutes to make sure any bacteria are killed.



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aris Otter is a rare, old fashioned two-row barley, low in yield per acre and tough to grow. Seasoned brewers still insist on the delicious, rich, plump, nut-like character and the finesse that the variety gives their pale and brown ales, porters, stouts and barley wines. Crisp Malting Ltd. of Great Ryburgh continues to contract with local Norfolk farmers to supply them this extraordinary barleycorn. Crisp maintains one of the few remaining traditional floor maltings in England. Their fine pale, crystal, and dark malts are now available to micro- and home brewers in the U.S. and Canada through Liberty Malt Supply Company and their retail agents.



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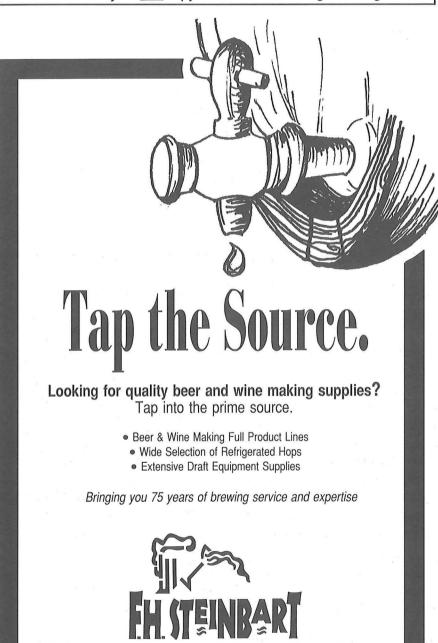
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The Munton & Fison Meow

For the last brew I used the Munton & Fison English Bitter kit and fortified it with malt, extra specialty malts, hops and liquid ale yeast. The finished beer is, I am proud to say, one of the best I have ever brewed.

For six gallons:

- 2 cans (6 2/3 pounds) Munton & Fison Gold Range Old English Bitter kit
- 11/2 pounds dry light malt extract
- 1 pound 80 °Lovibond cracked crystal malt
- 1/2 pound Belgian de-bittered chocolate malt
- 2 ounces black patent malt
- 2 1/2 ounces Cascade hops

Wyeast London ale yeast

3/4 cup corn sugar (for priming)

- OG: 1.060
- FG: 1.018

I steeped all grains at 155 to 160 degrees F (68.5 to 7l degrees C) for 45 minutes and added the liquid to the main brew. I brought the malt extracts and liquid from the minimash to a boil, added I I/2 ounces Cascade hops and boiled for 35 minutes then added I/2 ounce Cascade hops and boiled for I0 minutes. Last I added I/2 ounce Cascade hops at the end of the boil, force cooled the wort to 80 degrees F (26.5 degrees C), topped the fermenter up to 6 U.S. gallons and pitched yeast. Primary fermentation was in glass for eight days at 70 degrees F (2l degrees C). Secondary fermentation was in glass for seven days at 50 degrees F (10 degrees C).

The finished beer is dark brown, nearly black and holds a rich, creamy head until the glass is drained. This beer has an incredible chocolate malty flavor that is slightly offset by the bitterness from the extra hops and black patent malt. This is certainly among one of my finest efforts and the beer seems to be improving with every bottle I open.

Overall, I was incredibly pleased with the quality of the beer I brewed with the Munton & Fison Gold Range Continental Pilsener and Old English Bitter kits. If you just take the time to boil your wort for I5 minutes, you are virtually guaranteed an excellent beer. Take the time to add some specialty malt, fresh hops and liquid yeast and you'll have some pretty incredible homebrew.

This article is available in Library 13-AHA/zymurgy/Clubs on Compuserve's Beer and Wine Forum as FAL93K.ITS.

REVIEWS

On Tap Companion

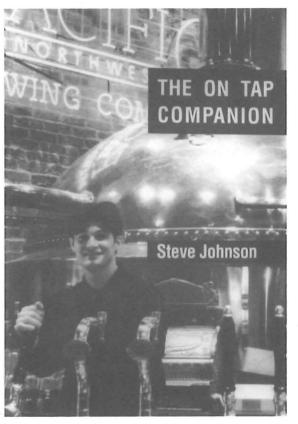
A sequel to *On Tap: The Guide to U.S. Brewpubs* (WBR Publications, 1991), the *On Tap Companion* includes brewpubs and microbreweries that have opened their doors since publication of the original. To his credit, Steve Johnson has given us 69 more reasons to leave home. Each entry includes the name of the brewpub or micro, the address and phone number, directions, hours, menus and, of course, a list of the beers they brew.

Small but very clear symbols tell you about the presence or absence of TVs, live music, non-smoking areas, outdoor seating, off-street parking, access for people with disabilities, games and fireplaces. And you'll find a line that tells you whether they'll honor your plastic. In some cases, you can max out at least four or five different cards before you'll have to leave.

In short, the *Companion*, like its elder volume, is just plain handy. When I stumbled into a free junket to Monterey, Calif., I checked out the original *On Tap* and bingo, I was in a brewpub before the bus stopped rolling.

I'm sure you'll have similar luck. In this volume you'll find brewpubs with such amenities as Tibetan chants on the jukebox, toys for your kids, an antique red motorcycle from India, a flying saucer, a galvanized steel and aluminum diamond-plate bar, Egyptian nobility boating on the Nile and a Jewish bakery.

If these volumes continue to be updated and published at this rate, they will be-



come the U.S. equivalent of the *CAMRA* Food and Beer Guide. Don't leave home without them.

On Tap Companion by Steve Johnson, (WBR Publications; publisher's suggested retail price: \$8).

- Kihm Winship

SyphonWonder from Down Under

The SyphonWonder is a convenient and safe way to siphon any liquid from beer to

gasoline, and even acids. Because the average homebrewer will only be siphoning beer and clean or dirty water, I'll limit the description to these.

The primary reason to use the SyphonWonder is to keep the bacteria in your mouth from contaminating your beer. It is more convenient because it doesn't require kneeling to start the siphon.

I did eight different test runs and became aware of another good use: You can actually keep the top (input) end of the hose up to six inches *lower* than the bottom (output) end, and it will still keep siphoning. Normally a siphon cuts off when the output end rises just above the input end. Admittedly, the flow decreases when this happens using the SyphonWonder, and it's not efficient, but the siphon pressure won't be lost if you accidentally bump the hose a bit.

The two-inch long stainless-steel gadget attaches to the input end of your

hose, and to use it you shake it vigorously up and down. How it works is a mystery to those of us who didn't study liquid dynamics in physics class, but liquid is forced upward past a plastic "ball" and an H-shaped piece. You must shake it until the liquid reaches the highest point of the hose.

The SyphonWonder brochure states the device can siphon five gallons in 90 seconds. In my test runs, the average time for cleared beer and for water was 305 seconds. For dirty water and yeasty beer, the average was 530 seconds.

The other claim is that it takes four or five shakes to start the siphon, yet I was not able to start it without shaking IO to I4 times, thereby introducing a bit more oxygen and creating more turbulence.

Although the SyphonWonder did not siphon as fast as it claimed, nor with as little disturbance, it still did its main job consistently well; that is, keeping mouth germs out of the wort or beer. It's durable and easy to use and clean.

For more information contact Mystic Concepts, PO Box 53, Westminster, CO 80030.

Manufacturer's suggested retail price: \$5.95.

— Susanne Price

Wort-Ox Aerator

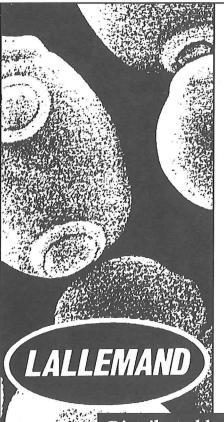
The Wort-Ox oxygenates cooled wort and creates prime fermentation conditions for yeast growth and attenuation. An aquarium-size pump blows air through a 0.45 micron filter before bubbling it into the stream of wort flowing from a spray-nozzle down the side of the carboy. Although it can be used

with an immersion-style chiller, it is best used with a counterflow chiller so hot-side aeration does not occur. It should always be plugged in *before* you attach the hose from the wort chiller, otherwise pressure from the siphon will immediately cause wort to back up into the filter, thereby getting it wet and rendering the Wort-Ox forever useless.

The Wort-Ox could use a few improvements beyond preventing the air filter from getting wet. It pumps just ordinary air. At two or three bubbles a second the aeration is feeble — a good aquarium pump could do better. Moreover, the 30-inch cord requires an extension cord if there is no outlet right next to your stove, or wherever you transfer wort to a fermenter.

On the positive side, the Wort-Ox will cool wort an extra five degrees when using a counterflow wort chiller. Extra chilling is caused by added surface area when introducing the wort into the fermenter. The Wort-Ox doesn't cause excess foaming, which can be annoying with other air-injection systems. In addition, the 0.45 micron filter will help prevent bacteria from entering the wort.

Leaving the issue of hot-side aeration aside, the Wort-Ox was used with an immersion-style chiller. Results were comparable to "oxygenating" by shaking the fermenter when mostly full. Attenuation did not seem to be affected with either method. Using both methods with fresh yeast, active fermentation started within six to 10 hours



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and was reasonably vigorous. I had expected a quicker start and more vigorous fermentation.

For more information contact East Coast Brewing, PO Box 060904, Staten Island, NY 10306. Manufacturers suggested retail price: \$22.50.

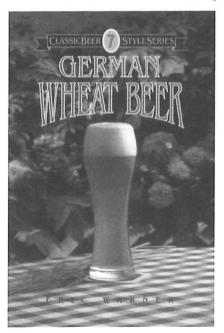
- Susanne Price

German Wheat Beer

Eric Warner realized he wasn't in Colorado anymore, Toto. On his first day of work at a small brewery near Munich, co-workers invited him out for a midmorning "brotzeit" (bread time) break, and summoned a ration of weissbiers instead of the coffee he was expecting.

That day, Sept. 2l, 1987, Warner became a "reborn Weissbier drinker," instantly revising his prejudice against the style which is milky in color, foamy in texture, tangy in taste and swimming with what appear to be solid chunks of yeast.

"If the Germans were having it on their 'coffee break,'" he recalls, "then it must be pretty good stuff. But what really made it taste so good wasn't the rich, spicy palate of the beer or its bubbly, refreshing and thirst-quenching taste, but the fact that my co-workers had invited me to drink it with them. They



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-Stu Tallman, 1992 AHA Homebrewer of the Year

-Munich Dunkel - "StuBrew"

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- Steve and Tina Daniel, 1992 Ninkasi Award (AHA High Point Winners)
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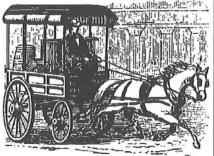
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were showing me, a stranger in a foreign land, how to fit in."

And now, in another in the popular Classic Beer Style Series from Brewers Publications, Warner sings the praises of this idiosyncratic brew that is the most popular potable in beer-loving Bayaria.

This volume is slender (149 pages), but incorporates a wealth of information about Weizen including how it is made commercially, descriptions of the many German variations, technical data about the physical and chemical composition, how to brew it at home with both extract and all grain and even the proper ways to serve weizen and what to eat with it.

"Weizen," the German word for "wheat," refers to Weissbier itself, Warner notes, adding that "Weissbier" in turn means "white beer," a reference to its relative paleness rather than its actual color, which is closer to pale gold than pure white. "Hefe Weissbier" or "Hefe Weizen" (yeast white beer) refers to bottle-conditioned varieties preferred by most Germans, who stir up the sediment in the belief that yeast is good for the

digestion and just about anything else that ails you.

The 500-year-old style was immensely popular in the I7th and I8th centuries, but almost died out before a major resurgence in recent decades, when its relative lightness and reputation for healthfulness have restored it to popularity. Weizens now account for nearly one-fourth of the beer produced in Bavaria. In a hilarious section, Warner quotes the II top reasons German beer fanciers give for preferring Weizen, including such pearls as, "Mornings, and particularly after church on Sunday, the 'Weisse' tastes best to me," and "The nicest thing about Weissbier are the burps, which also bring the bad air out of the stomach."

Warner's detailed sections on the physical and chemical composition and on brewing Weissbier are rather advanced. He calls for double-decoction mashes for the allgrain recipes and even a *lactobacillus* culture for one. And he offers only two extract recipes using speise, the German equivalent of "gyle," a portion of sweet wort reserved from brewing day for priming. In

short, these procedures are challenging, interesting and probably not for the novice homebrewer.

For the advanced brewer, however, this book makes a worthy addition to the Classic Beer Style Series, compressing nearly everything one would want to know about Weizen into a compact volume and conveying that information with humor and style, right down to his expression of horror at the modern notion of serving Weizen with a lemon slice.

"If you shuffle up to the bar in Bavaria and ask for a lemon slice in your Hefe Weissbier," he says, "the place will become deathly silent. You will definitely get some mean looks from the other pub goers and the bartender will curse at you under his breath or even directly at you."

He makes the point: Enjoy your Weizen straight. The bartender will be pleased, and so will you. And this book will certainly enhance the experience.

German Wheat Beer by Eric Warner, (Brewers Publications; publisher's suggested retail price:\$11.95).

- Robin Garr

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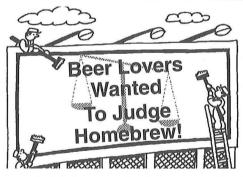
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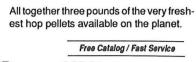


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HOMEBREW CLUBS

James Spence

Protecting Your Privilege to Brew: Changing Beer Laws

The following article is the first in a series designed to showcase the various issues that link homebrew clubs and imaginative beer and brewing activities.

This is one man's story about how to take the spirit of homebrewing, apply it to a great cause, fight the law and win. It is a story about homebrewing. But it also is about change, about standing up for what you believe in, setting a goal and persistently seeing it through. This story is important to all of us who homebrew because it reminds us of how precious the freedom to do so really is. It reminds us that Prohibition (1920-1933) was not so long ago and we should not take our freedom to brew for granted. Let this story remind you of what brewers have had to go through to secure the freedoms you enjoy today. This article is encouraging about the future of homebrewing and its continued growth. The next time you brew a batch or sit down to enjoy a homebrew, give a toast to Rick Lubrant and the "powers that be" that allow us this delicious freedom.

By Rick Lubrant

egalizing homebrewing in Georgia was, above all, an education in the political process. I hope what I learned as a lobbyist and director of our Homebrew '93 campaign won't be discarded but passed on to all beer enthusiasts interested in changing the laws in their states. (Editor's note: Homebrewing is currently illegal in Oklahoma, Utah, Pennsylvania, Alabama, Missouri and Arkansas and there may be restrictions in several other states.)

The most important lesson I learned was the power of constituency. One homebrewer in di-



rect contact with his or her legislator can have more influence than a hundred random phone calls. Letters are definitely better than phone calls, but a one-on-one, face-to-face chat with your legislator will establish a true commitment. From the beginning you should establish a network of homebrewers in your state willing to sign a petition and donate time to contact their legislators. Your petition should have everyone's signature, home and work telephone numbers and, most important, the legislative district they reside in.

Though we like to think of ourselves as hobbyists, not lobbyists, I cannot overstress the importance of having a good lobbyist. The role of a lobbyist is to oversee the bill, know where it is at any given moment and make sure it gets from point A to

ith regret, we have had to discontinue listing every homebrew club in *zymurgy*. There are now 345 AHA-registered homebrew clubs in the world, and the length of the listing has become too cumbersome to include in the magazine.

We will continue to list newly registered clubs, and you can always get a complete list updated quarterly by contacting our office. In addition, we will include the full listing in the 1994 Summer Issue of *zymurgy*.

We are replacing the five- to six-page club listing with these two pages of club news and information. We hope to incorporate guest columnists, photos and special club-related information in each issue of *zymurgy*. If you have something you'd like to see in these pages, let us know. Call or write James Spence, AHA Administrator, PO Box 1679, Boulder, CO 80306-1679, phone (303) 447-0816, FAX (303) 447-2825, CompuServe 70740,1107.

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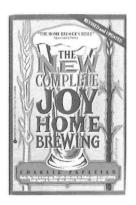
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Fort Wayne Freebrewers Guild, c/o Keith Vosburgh, 2128 Edgehill Ave., Fort Wayne, IN 46805, (219) 482-5642.

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Central Iowa Homebrew Club, c/o Dan A. Morey, 1120 Johnson Circle, Story City, IA 50248, (515) 733-2651.

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Mohawk Valley Friends of Beer, c/o Karl Sweitzer, RRI Box 275 Roberts Rd., Sauquoit, NY 13456-9604, (315) 737-8341. The Saratoga Thoroughbrews, c/o Wolfgang Kurth, The Hoppy Troll, 454 Broadway, Saratoga Springs, NY 12866, (518) 581-8160.

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The Grateful Deaf Homebrew Society, c/o Ken Fisher, 5025 S.W. Pasadena No. 2, Portland, OR 97219, (503) 245-1795.

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From left to right are Ray Badawski, Lisa Badawski, Wayne Smith, J.S. Stone, Sue Smith, George Stone.

point B as quickly as possible. The legislator sponsoring your bill will neither have the time nor the motivation to follow it through the proper channels. Some legislators may sponsor 20 to 30 bills in a session.

Once you have your network organized, the next step is finding the best possible sponsor to champion your cause. A reluctant sponsor will only hurt you down the road, so research this matter with the utmost care. Become familiar with the committees your bill will pass through. Chairpersons to these pertinent committees may be your strongest choices politically, if they are sympathetic to your cause.

Learn your state's political process. Get as many people involved with your campaign as you can. Put together a concise information package. Ask questions and be sure to follow up on every single lead or hunch you may get. Don't give up. Some bills may take several years to be passed into law. In Georgia, our homebrew legislation took three years to finally get through both houses and be signed by the governor.

The following is an outline that may help you plan your strategy:

A. Establishing a Homebrewers Network

Building a network of homebrewers in your state is extremely important. To a politician, constituency is everything. It's essential to have contacts in every legislative district in your state. To do this, start very early, at least six to nine months prior to the next legislative session. Petition circulation is an easy way to establish a network.

- 1. Rent a post office box to use as a mailing address.
- 2. Find a title or slogan for the campaign.
- Select a volunteer to act as petition chairman, one with a computer to log all data and incoming names and districts.
- Write a simple petition and distribute it to homebrew suppliers and clubs throughout your state as well as out-of-state mail-order companies.
- 5. When the legislative session begins, get as many people involved in calling all the names on the petition and ask the signees to contact their legislators directly to ask for their strong support.

B. Researching and Drafting Your Legislation

To change the laws you must first learn how laws are implemented in your state. Learn your state's political process in depth. Find the codes that currently prohibit the household production of malted beverages. The footnotes to such codes will direct you to the legislation that governs these laws as well as its history and who voted for or against it.

- I. Obtain a copy of your state's codes or present laws.
- 2. Research your state's house and senate journals.
- 3. Secure a copy of the federal statute on homebrewing.
- 4. Write a rough draft of the legislation you would like to propose.
- 5. Acquire ideas from other states whose laws were changed.

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Homebrewing is legal in Georgia! Covert Hops members are off Georgia's most-wanted list.

C. Finding a Lobbyist

You may ask yourself, why do we need a lobbyist? What can they really do? When we first started our campaign to legalize homebrewing in Georgia, we didn't have a lobbyist. Most of the members in our homebrew club were opposed to the idea. We truly tried to dissociate ourselves from the notion that we were a special interest group. We're hobbyists, not lobbyists. As time went on we spent countless hours on the phone trying to find out exactly where our legislation stood. By the time we discovered which committee our bill was hung up in, it was too late. A lobbyist not only tracks a bill, but knows which committees meet at what times, makes sure the bill gets to the committee and is presented properly by the sponsor. The simple presence of a lobbyist indicates to legislators that your organization is very serious about its legislation. Once your bill makes it to the floor of the senate or house, a lobbyist can make sure all the players are in place. If your sponsor decides to disappear prior to his or her presentation of the bill, a good lobbyist will have one or two backup legislators to speak on your bill's behalf. Another important job of a lobbyist is to connect legislators with their constituents. When a lobbyist approaches a legislator seeking his or her support on your bill, nothing works better than to state the name of the person in their district who has previously contacted them seeking their support. A good lobbyist is a must!

- 1. Your lobbyist should be a homebrewer or have in-depth knowledge of the brewing process.
- 2. Your lobbyist should be strongly committed to your cause.

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- 3. Your lobbyist should have a professional appearance.
- 4. Your lobbyist should be a likable and personable individual.
- 5. Your lobbyist should have a flexible schedule.
- 6. Your lobbyist should be a person willing to ask questions of other lobbyists and legislators.

D. Finding the Best Sponsor

A strong sponsor for your legislation is very important. The sponsor should be an incumbent with the political power to get things done. It also helps if your sponsor is the chairperson or co-chair of the committee that will be assigned your legislation. It is a good idea if your sponsor is a member of the majority party. Whomever you select, be sure to let him or her know they were chosen because they are the best person to champion your cause.

- Interview possible sponsors three to six months prior to the upcoming legislative session.
- 2. Find a sponsor who is strongly committed.
- Incumbency is very important as well as membership on important committees.
- 4. Find co-sponsors for your bill once a sponsor is secured. The more people involved the better.

E. Putting Together an Informational Package

From the very beginning of your campaign you should be thinking of putting together a concise package of literature that describes the purpose of your legislation. The more professional your package looks, the more legislative opinions you will change. Most politicians will not remember all the strong points and reasons why the laws must be changed. An informational package gives them a solid foundation on which to base their decision. Your package should contain the following:

- I. An attention-getting, attractive cover.
- 2. A table of contents
- 3. A copy of the actual bill or a rough draft of your proposal.
- 4. A copy of the federal statute on homebrewing.
- 5. A copy of the state code that prohibits the household production of malted beverages, which you would like to amend.
- 6. Diagrams or graphs that display the process of homebrewing.
- 7. Questions and answers on homebrewing.
- 8. A homebrew industry fact sheet, available form the AHA.
- Any articles that have appeared in magazines and newspapers that reinforce the need to change the laws.

Rick Lubrant is a photographic designer in Decatur, Ga. He was lobbyist and director of the Homebrew '93 campaign that successfully helped legalize homebrewing in Georgia earlier this year. If you would like a copy of the Homebrew '93 information packet, contact James Spence at the AHA.

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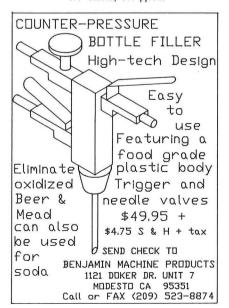
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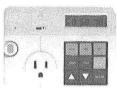
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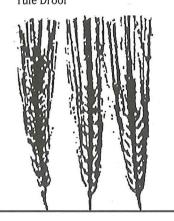
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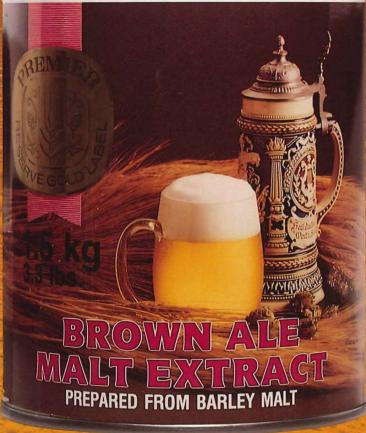
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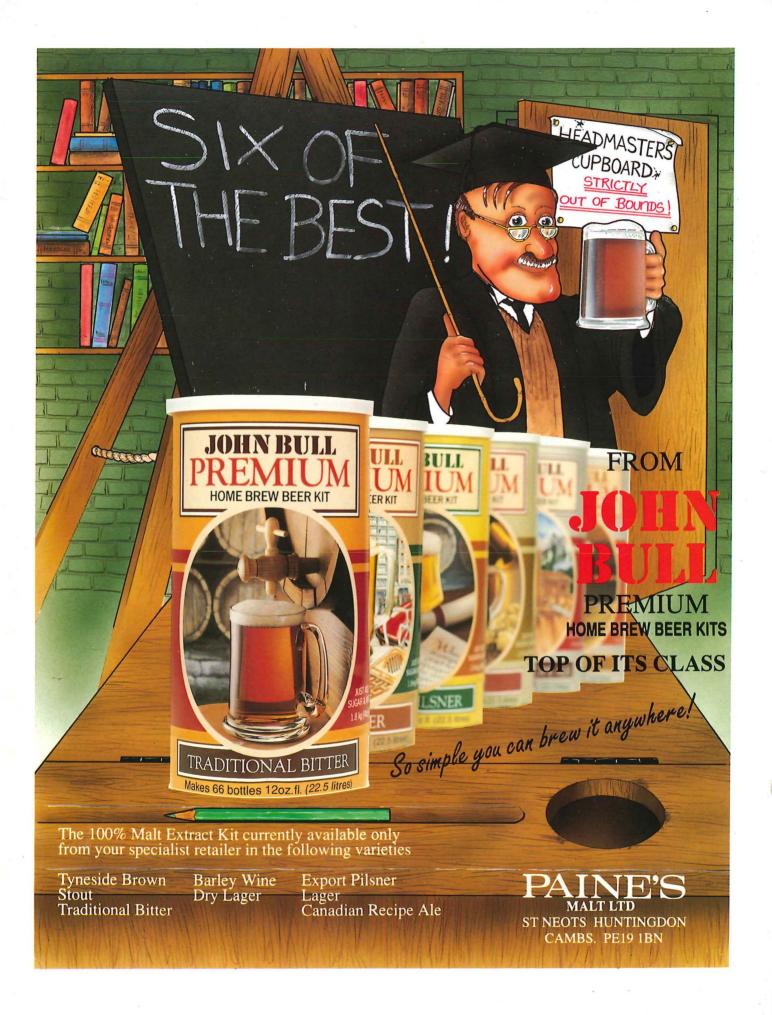
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