

# Zymurgy

Vol. 12, No. 1  
Spring 1989

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\$4.00

Inside:  
Info on 1989  
AHA Conference

## BOILING HOPS:

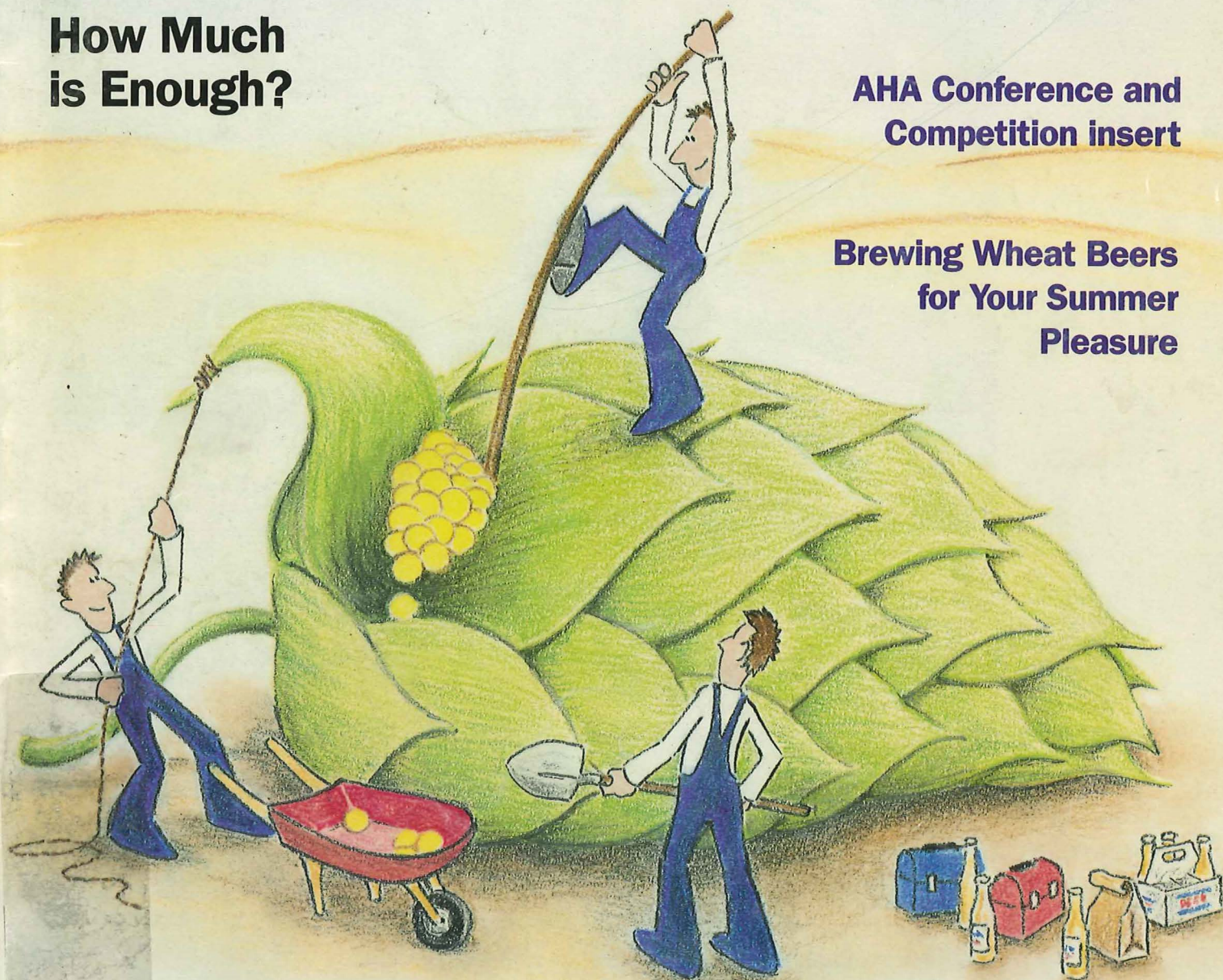
How Much  
is Enough?

## Carbonation Techniques

*How to get the right amount  
of fizz in your beer*

## AHA Conference and Competition insert

## Brewing Wheat Beers for Your Summer Pleasure



Product Reviews • Brewing for the Beginner • 8 Award-winning Recipes

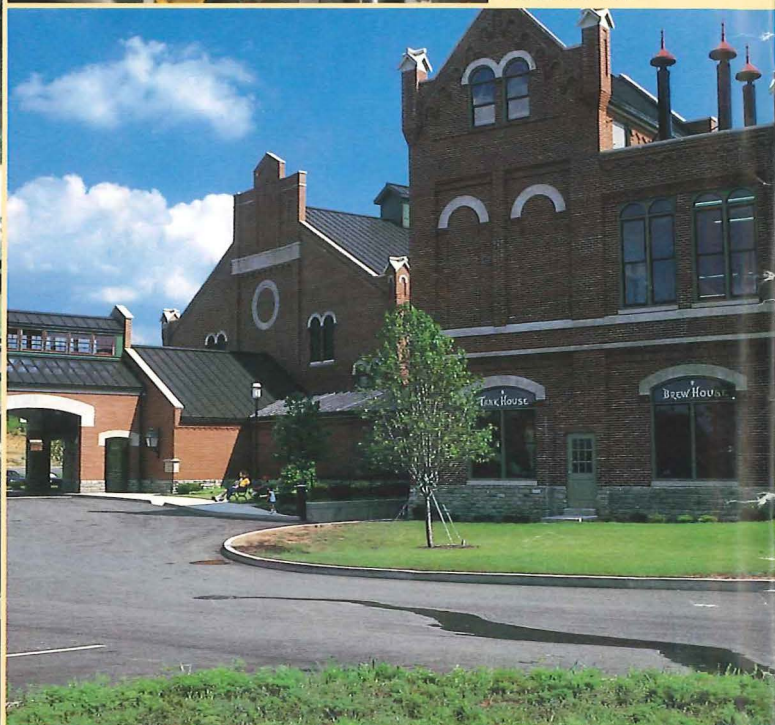




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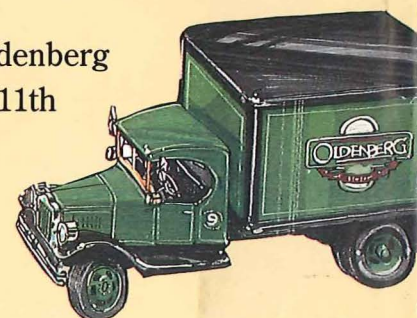
*Above: Oldenberg Brewery*

*Left: Brew a batch of beer with Oldenberg Brewmaster Hans Bilger.*

# A Beer Extravaganza!

**AHA Conference, Oldenberg Brewery, June 7-10, 1989**

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*For more information see pages 11, 15, 21 and 27.*





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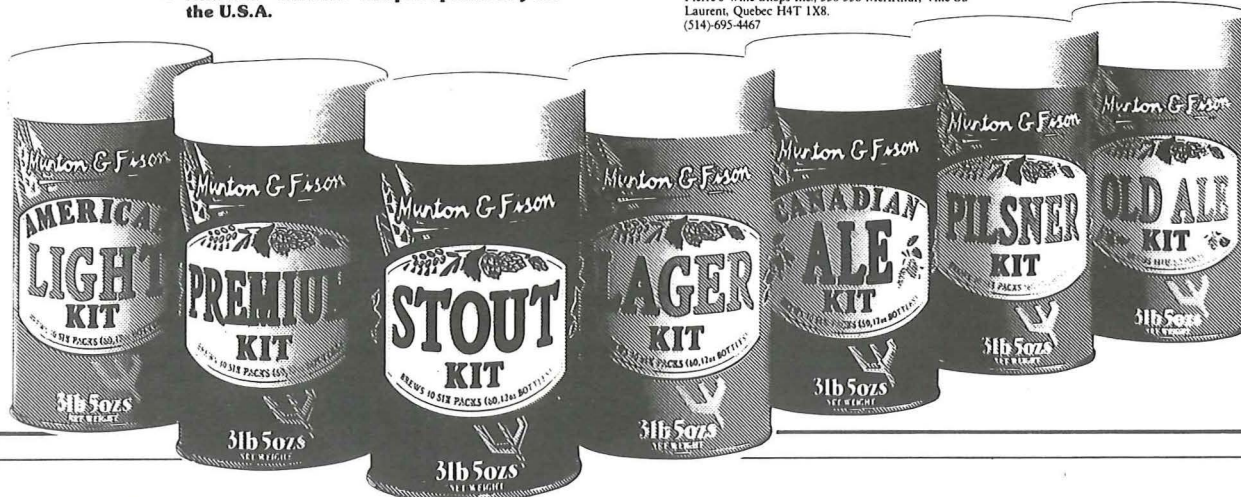
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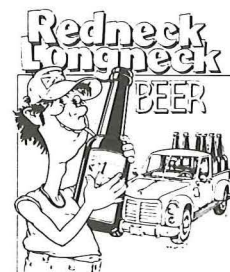
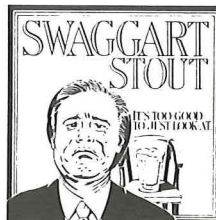
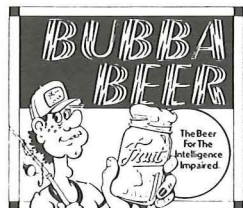
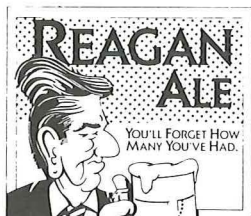
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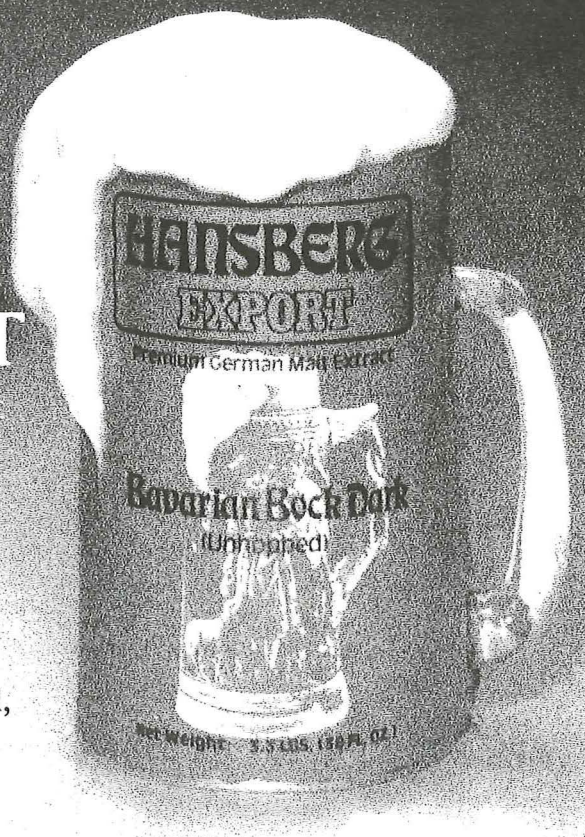
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## HANSBERG EXPORT

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# Zymurgy

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The Association of Brewers Inc. is a Colorado non-profit corporation for literary and educational purposes to benefit homebrewers of beer and all those interested in the art of homebrewing. The Association of Brewers is exempt from Federal Income Tax under Section 501(c)(3) of the Internal Revenue Code. All gifts, grants and contributions are tax-deductible.

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*zymurgy* welcomes letters, opinions, ideas, stories and information in general from its readers. Correspondence and advertising inquiries should be directed to *zymurgy*, Box 287, Boulder, CO 80306-0287, (303)447-0816. All material © 1989, American Homebrewers Association. No material may be reproduced without written permission from AHA.

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## THE AMERICAN HOMEBREWERS ASSOCIATION MISSION STATEMENT

To help maintain quality in the production and distribution of beer; 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.



## EDITORIAL

CHARLIE PAPAIZIAN

# A Matter of Style



hey brewed it strong and they brewed it hoppy to withstand the long voyage from mother England to colonial India. Years later India Pale Ale became a matter of style.

There once was a duke whose favorite brew was made far from his home. The malty concoction was perhaps brewed extra strong for the long journey from Einbeck to Bavaria. The abbreviation and corruption of the name Einbeck to bock became a matter of style.

Trappist ales, Pilseners, bitter, Maerzen, barley wine — they all have their own stories and origins.

The “classic” beer styles recognized today were not decided upon by juries or beer enthusiasts at all; rather it seems they originated from the masses of beer drinkers and the evolution of trends. Styles evolved to serve a purpose or fill a need. Now that we have access to so many different styles, perhaps we forget why they were developed.

As homebrewers, if there is one thing we can discuss, argue, concoct, defend, and disagree on all day and all night it is the categorization of beer styles.

No, this editorial isn’t about a particular beer style, nor maltiness, hoppiness, alcohol, body, aroma, after-taste, adjuncts or the many characteristics we’ve learned in order to distinguish beers from one another. It is about another view of the emergence of beer styles and a thought that crossed my mind while listening to non-beer enthusiasts taste beer.

The next time you’re out having a beer, forget your own notions about beer and brewing for a moment. Listen to what others have to say about the beers they drink. There are a whole lot of beer drinkers out there who don’t choose their beers because they are pale ales, bocks or Maerzens; nor do they choose them because they are dark or light, sweet or bitter. Pardon me for arising the skeptic in you already, but it occurred to me that most non-beer enthusiasts would say they choose beer for reasons we may not discuss enough.

A party beer, a going-out-to-a-bar beer, an evening-nightcap beer, a hot-weather beer, a beer-with-food beer, a cold-weather beer, a celebration beer. Perhaps as

brewers, both amateur and professional, we’ve missed one of the boats.

When have you ever seen a beer label suggest that what’s inside the bottle is especially nice with a particular occasion or environment? We’ve seen plenty of descriptives like choicest this and thats and premium quality these and those. We even talk about the character of what’s inside: malty, strong, hoppy, full bodied, sweet. But what does all this have to do with describing the qualities of life and events that most of us enjoy beers with, and different beers for different occasions?

Let me leave you with this thought: People choose to drink a particular beer because they want to complement a particular experience or their immediate environment, not because they are thinking, “Dortmunder,” “pale ale,” “bock” or “Pilsener.” Most beer drinkers do not have the experience to make a distinction between classic styles as many enthusiasts have tried to define.

Could we ever expect to see homebrew beer kits or labels on beers from breweries small and large describing: “This beer was brewed especially to complement a meal” or “This beer was especially brewed for special celebrations” or “This beer was especially brewed to socialize with.” A hot-weather beer, a dessert beer, a family picnic beer, a beach beer. It seems as though it would make sense to a lot more people than only being described as a bock, pale ale, weizen or barley wine.

In some ways I feel as though I’m playing the devil’s advocate. All those years of *zymurgy*, beer styles, evaluation, competitions, festivals and beer appreciation help us as beer enthusiasts celebrate and improve the art of beer and brewing. But perhaps we might take a different perspective on how most others think about beer—especially if we want to reach more people and promote an appreciation for the qualities of beer. Let’s not forget the underlying reasons why beer exists and continues to be so popular — it complements lifestyles, environments and situations.

I wonder what “classic” styles our generation of beer drinkers will offer to beer enthusiasts a century from now?



# ASSOCIATION NEWS

## AHA Expands Competition Packet

An all new certificate of participation and seven-page press and public relations pamphlet have been added to the American Homebrewers Association Sanctioned Competition Program package. Other recent additions are two certificates good for second-round entry into the AHA's 1989 National Homebrew Competition.

Items that always have been in-

cluded are certificates for two free entries into the AHA National Homebrew Competition, ready-to-print recipe, registration and scoresheet forms with a place to imprint the name of your competition, organizers' report form, seven pages of articles on how to organize and run a competition, names and addresses of certified judges in your area, competition dates and results published in *zymurgy*. Judging experience is applied to judge certification.

All clubs, shops and individuals may apply.

## Beer Judge Certification Program

The American Homebrewers Association and the Home Wine and Beer Trade Association have each contributed \$1,200 to the National Beer Judge Certification Program to help administer and promote the program and erase the deficits incurred during its startup phase. Now three years old, the program continues to be sponsored by each organization.

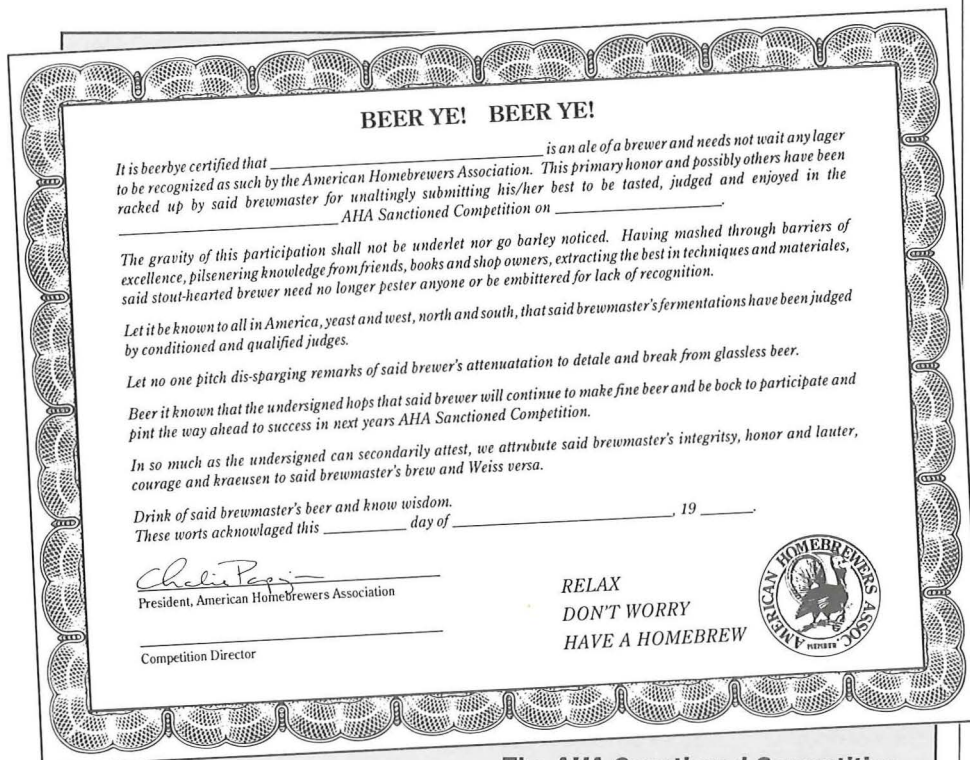
## Beer Books — Attention Authors

Brewers Publications, a division of the Association of Brewers, is the world's only publishing company specializing in books on beer and brewing. Twelve titles currently are available and six new books are scheduled for publication for 1989.

Brewers Publications welcomes ideas, outlines, proposals or manuscripts on the subject of beer and brewing. All submissions will be carefully considered. Direct inquiries to Brewers Publications, Box 287, Boulder, CO 80306.

## Competition Winners to Brew in Boulder

The Boulder Brewing Co. is offering a grand prize to the winner of each of two AHA club competitions, the Best of the Fest and Hail to the Ale, this year. The prize is an ex-



**The AHA Sanctioned Competition Program's new certificate of participation includes 56 puns or references to beer and brewing. Can you find them all?**





**Left: Pippa Hollands, Association of Brewers' receptionist and assistant office manager, sorts through the day's mail.**

**Below: Proud members of the AHA-sponsored Turkeys softball team display their team garb at the AHA's 10th Anniversary party, Dec. 1, at the Boulder Brewing Co. More than 200 beer enthusiasts showed up to take brewery tours, eat brats and anniversary cake, swap homebrew and stories, and listen to AHA president Charlie Papazian and friends play their conga drums in the brewhouse.**

pense-paid trip to Boulder to commercially brew 1,200 cases of the winning recipe at the Boulder Brewery under the supervision of Brewmaster Michael Lawrence. Special labels with the winners' signatures will be made for each batch.

### **New Staff and Staff News**

If you've telephoned the AHA recently you may have thought at first you've reached the British Embassy or England's Campaign for Real Ale. Not quite. Pippa (Phillipa) Hollands, originally from Wokingham, England, has recently joined the Association staff as receptionist and assistant office manager. If you ring on the "tele" or "knock us up" she'll likely be the first to help you.

*zymurgy* Associate Editor Tracy Loysen and Production Director Monica Favre brewed their first and second batches of beer late in 1988,

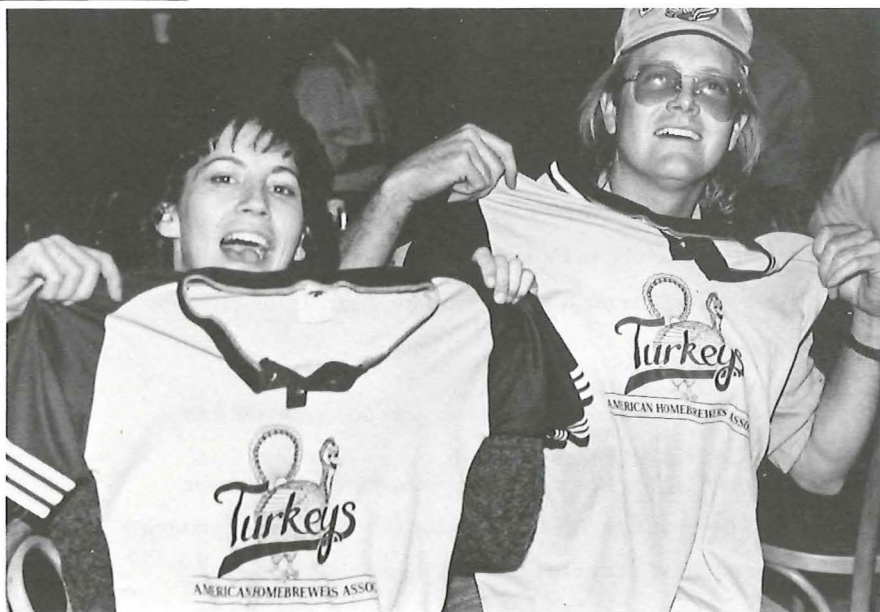


PHOTO BY MONICA FAVRE

"Trepidation Ale" and "Schizophrenic Stout."

### **AHA Joins CompuServe Network**

The American Homebrewers Association will be entering the world

of electronic information by serving as a forum administrator to the 500,000-member CompuServe network.

The AHA plans to be on-line by late spring and provide general and technical information about beer and brewing. Forums and live conferencing programs are also planned. Detailed information will appear in the summer issue of *zymurgy*.

For advance information send a self-addressed stamped envelope requesting information to The Beer Forum, AHA, PO Box 287, Boulder, CO 80306, or call (303) 447-0816 after April 1.

The purpose of AHA's participation is to provide its members an additional service and introduce the general public to quality beer and brewing information.

### **BOCK IS BEST CLUB COMPETITION**

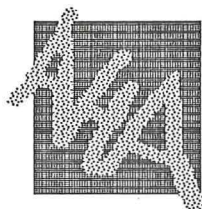
It's spring and time for a bevy of beautiful bocks. Will no one unseat those bock barons, the defending title holders, the Wort Processors of Boston, Mass.?

The Bock is Best club-only competition will be judged May 6 in Boulder, Colo. Entries are due in Boulder by April 28. One entry per club, entry fee is \$5.

Clubs, start your best bocks brewing and watch your mailboxes for details.



## FREE FROM THE AHA!



### American Homebrewers Association

#### General Information

- ☐ An Introduction to the American Homebrewers Association  
*An eight-page pamphlet explaining the AHA history, goals and programs.*
- ☐ *zymurgy* Mini-Index 1978-1988  
*A four-page index listing articles in 46 issues of *zymurgy*.*
- ☐ The New Brewer magazine Index 1983-1988  
*An index listing articles featured in the magazine for micro and pub brewers*
- ☐ The Beer Lover's Store  
*A catalog of beer books, T-shirts, glassware and fun things.*

#### Lists

- ☐ Additives allowed in beers commercially brewed in the U.S.
- ☐ Wholesale distributors for those retailing homebrew supplies.
- ☐ Homebrew clubs in Canada, New Zealand, Australia and the U.S.
- ☐ Beer-related magazines, newspapers, journals, newsletters.

#### How-tos

- ☐ How to Teach a Homebrew Class  
*Advertising, course description, class size, your first session and more.*
- ☐ How to Start a Homebrew Club  
*Organizing, getting members, meeting places, activity ideas and more.*
- ☐ Editorial and Photo Guidelines for submissions to *zymurgy*
- ☐ How to Brew Your First Batch of Beer
- ☐ Outline for Intermediate Brewing
- ☐ How to Use Specialty Malts, with Malt Extract Conversions

#### HERE'S HOW TO OBTAIN THE ABOVE INFORMATION:

- AHA members: It's all free to you but you must send a 9" x 12" self-addressed envelope with your request and affix 45 cents postage for every three pieces of information requested. Or, you may enclose 50 cents for each item without a self-addressed stamped envelope.
- Non-members of the AHA: Please submit \$1 (\$2 minimum) for each item requested. All foreign overseas airmail requests enclose \$3 extra for postage.

Direct all inquiries to AHA Member Services, Box 287, Boulder, CO 80306 USA.

I have enclosed

- ☐ stamped, addressed envelope    ☐ \$\_\_\_\_\_ for postage and handling

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City \_\_\_\_\_ State/Province \_\_\_\_\_

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Phone \_\_\_\_\_

## 1989 Special *zymurgy* to focus on yeast

The editors of *zymurgy* are already planning the 1989 Special Issue, which will focus on yeast. The issue is being designed for beginning to advanced brewers. Topics will include yeast culturing, storing, handling and repitching. Those interested in contributing articles, information or ideas should contact Tracy Loysen, Associate Editor, at (303) 447-0816.

## Club News News

Seasoned Association staffer (and homebrewer) Dave Edgar has taken on the responsibilities of *zymurgy* Club News Editor and Winners Circle Editor. We've seen this phenomenon frequently around here; as soon as staffers get around to brewing their first batch of beer everything takes on a whole new perspective. "I wanna do it," was his response when the position became available.

All clubs registered with the AHA will receive a regular reminder about submitting written copy and photographs for possible inclusion in *zymurgy*. Dave always welcomes your ideas for the column.

## Membership Expiration Dates Explained

AHA Circulation Director Paul Echternacht reports that he has recently changed the expiration dates that appear on *zymurgy* mailing labels. They now reflect the date of your last magazine, not the date your membership ends, as was previously the case. Membership continues to run for a full year.

## *zymurgy* Contributors Welcome!

*zymurgy* welcomes ideas, outlines, proposals or manuscripts on the subject of beer and brewing. All submissions will be carefully considered. Direct inquiries to Tracy Loysen, Associate Editor, *zymurgy*, Box 287, Boulder, CO 80306.



# DEAR ZYMURGY

## OUR READERS

### Sex Object Objections

Dear *zymurgy*,

I am writing to express my disappointment over your recent Special Issue of *zymurgy*, specifically with the exploitation of an individual's physical attractiveness on your cover. I speak, of course, about the cover of the Beer-Lovers' Store catalog and your shameless use of Fred Eckhardt as a sex object to boost sales.

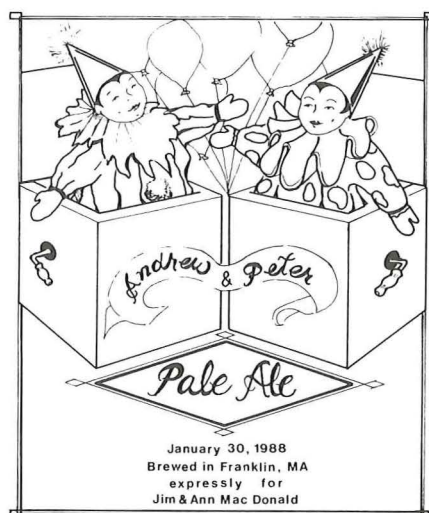
Yes, everyone who has seen Fred, and especially those who have met him, agree that he is endowed with an outsized measure of roguish good looks, magnetic charm and male vitality.

But does that mean you should shamelessly use him as bait for your female constituency, and for home-brewers' wives who might find this catalog lying around the house and order books and T-shirts while under Fred's spell?

And what about Fred? He's more than just a hunk, you know. Fred is deeply sensitive, a complete person with feelings and accomplishments, and here you are, treating him like a piece of meat on display in the marketplace.

Sure, Fred might enjoy it at first; the recognition, the adulation, but sooner or later the morning will come when he sits on the edge of the bed and says, "I feel so cheap . . . How could I have let them use me this way?"

I, for one, hope you will never again use a human being in your publication, but stick to yeast cells, carboys and lauter tubs. In protest, I



**Andrew and Peter Pale Ale was brewed by Gary McAlister, Franklin, Mass., to commemorate the birth of twins to good friends. The label was designed by Lainie Gage.**

am limiting my purchases from your catalog to \$60 and waiting a full day to send in my order.

But this is not the reason I am writing. I recently read Daniel Defoe's *A Journal of the Plague Year* and there is a quote I want to share with you.

In describing the effect of the Black Death on London in 1665, the narrator touches upon his own precautions for survival:

"It was now the beginning of August, and the Plague grew very violent and terrible in the Place where I liv'd, and Dr. Heath coming to visit me, and finding that I ventured so often out in the Streets, earnestly persuaded me to lock my self up and

my Family, and not to suffer any of us to go out of Doors . . . as I had not laid in a Store of Provision for such a retreat, it was impossible that we could keep within Doors entirely; however, I attempted, tho' it was so very late, to do something towards it; and first, as I had Convenience both for Brewing and Baking, I went and bought two Sacks of Meal, and for several Weeks, having an Oven, we baked all our own Bread; also I bought Malt, and brew'd as much Beer as all the Casks I had would hold, and which seem'd enough to serve my House for five or six Weeks."

This is on page 85 of the Heritage Press edition, published in 1968. I'll continue to keep you posted on such discoveries.

Flagons aloft,  
Kihm Winship  
Syracuse, New York

### Uplifting Experience

Dear *zymurgy*,

I've been studying Dave Miller's article "Getting A Lift From Your Yeast" in the Fall 1988 *zymurgy* (Vol. 11, No. 3) and have some questions I hope you would be so kind as to answer.

Everything is clear up to the paragraph "Making a Starter" on page 36. One at this time has a dozen quarts of sterile wort, "ready for use." Are each of these quarts a separate starter for one 40 ml sealed packet of liquid yeast? Does the yeast go in the gallon jug first, followed by the yeast? How



does one best "sanitize a one-gallon glass jug?"

I have repitched yeast (once per batch) and have not had problems (yet).

Sincerely,  
Ted Kehn  
Norway, Maine

Dear Ted,

Each quart of sterile wort can be used to "build up" one 40 ml packet of liquid yeast, although as mentioned in the article, it is really better to use two quarts for lager yeast. The recipe was for 12 quarts because (a) canning jars are sold by the dozen, and (b) you don't want to go through the canning rigamarole every time you use a new packet of yeast.

I always put the sterile wort in the jug first, then shake up the yeast before adding it. I don't know if the order makes any difference. It is important to aerate both yeast and wort.

The best way to sanitize a glass jug is to first clean it with a mild detergent and a soft bottle brush. Rinse well in hot water, then add standard chlorine solution (2 tablespoons household bleach per gallon of water). Allow 10 minutes contact time before rinsing thoroughly — I flush everything six times in 160 degree F tap water.

Glad to hear of your success in repitching — keep everything clean and it should continue.

Best wishes,  
Dave Miller

## Scooping the Big Guys

Dear *zymurgy*,

When it comes to brew news, you have scooped even the *Wall Street Journal*. In your summer 1988 "Brew News" column you had an article titled "Angola Moves to the Beer Standard." Enclosed is an article from the front page of the Sept. 19, 1988, *Wall Street Journal* titled "In Marxist Angola, Capitalism Thrives Using Beer Standard." So what do you think

about the outlook for the stock market?

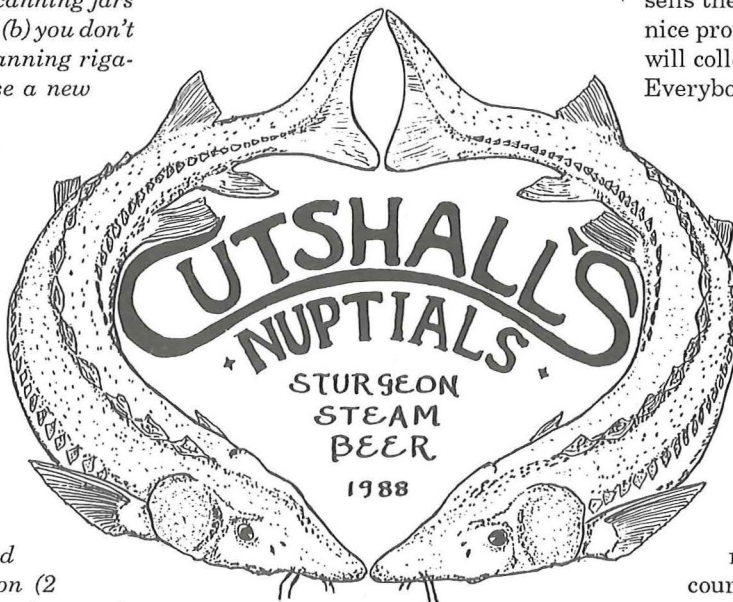
Jeff Peters  
Pittsburgh, Pennsylvania

The article is excerpted below:

### Money is Meaningless

Throughout Luanda, dollars and beer are the currencies of choice, favored over the local currency, the kwanza.

If anybody paid attention to the official rate of 30 kwanza to the dollar



**Thomas Pearson brewed Cutshall's Nuptials for friend Neil and his wife, both avid fishermen.**

(nobody does) he would have to pay more than \$60 for a packet of Marlboros or a can of orange pop. A heavy metal ashtray in the shape of a bug — its wings open up to collect the ashes — would cost more than \$150 at a state store.

At the black market rate of 2,000 kwanza per dollar, the cigarettes and pop cost less than \$1 each, and the ashtray is a steal at less than \$3.

"Money is meaningless," says a budding economist. "Beer has meaning." He explains the two ways to get on the beer standard. If you have dollars, you simply head to one of the government-run hard-currency shops and buy a case of imported beer — Heineken, Beck's, Stella Artois — for \$12.

But those who have only kwanza can get in on the deal, too. Typically, workers draw, as part of their salaries, coupons that can be redeemed at grocery stores run by their employers. These stores also have plenty of imported beer.

Having acquired a case of beer, you head to the neighborhood black market and cash in the 24 cans for 30,000 kwanza. This is worth \$15 at the black-market rate and \$1,000 at the official rate. Suddenly, you are rich.

The black marketeer, in turn, sells the individual cans of beer for a nice profit: at 2,000 kwanza a can, he will collect 48,000 kwanza for a case. Everybody's happy.

## Birthday Greetings

Dear *zymurgy*,

Happy Birthday!

I brewed my first batch of homemade in the spring of 1978, so the AHA and *zymurgy* came along just in time.

I am one of your earlier subscribers, and you have been a great help to me.

Not only has the quality of my beer improved over the course of 63 batches, but *zymurgy* introduced me to mead, which is horrible when young but truly magnificent when properly aged (a lot like some people, come to think of it).

Thank you for your past efforts, and I wish you many happy anniversaries to come.

Sincerely,  
Kenneth P. Pulliam  
Pfafftown, North Carolina

## Small Brewery Directory

Dear *zymurgy*,

Patrick Clancey wrote asking to include a directory of small breweries and products. When I travel I have the same problem.

I would like to see a directory of all breweries listed by state and city in a size small enough for the wallet.

I really don't need the *Microbrewers Resource Handbook* each year to find the location of a brewery. I think



the list would be helpful for me and my customers also.

Thanks,  
Arnold Peterson  
Wilmington, Massachusetts

*A comprehensive eight-page list of North American microbreweries, brewpubs and contract brewing companies, with addresses and key personnel, is available for \$20 from the Institute for Brewing Studies, PO Box 287, Boulder, CO 80306.*

— Editor

## Conners Stout

Dear *zymurgy*,

I'd like to add a footnote to the article, "The Stouts of America" (*zymurgy*, Vol. 11, No. 5, Winter 1988) to describe one of my favorite beers: Imperial Stout brewed by Conners Brewery in Toronto, available on tap and in one-liter plastic bottles in southern Ontario.

Conners Imperial Stout is brewed in a flame-heated copper kettle in 21 hectoliter batches. Twelve to 24 hours after one brew is pitched, a second kettle of wort is added for one complete batch of 35 to 40 hectoliters. The original gravity is 14.5 degrees Plato, or about 1.058, giving 5 percent alcohol by volume. After a minimum of one week of fermentation and one week of aging, the beer is filtered, carbonated and packaged.

The ingredients are 2-row pale malt, black barley and others kept secret by the brewery. The most attractive quality of all dark beauties, I think, is their mystery, so you should be at least a little puzzled about the rest of the recipe.

Zymasing grace,  
how sweet the taste!

Rob Lauriston  
Toronto, Ontario

## Using Specialty Malts

Dear *zymurgy*,

I just received the 1986 *zymurgy* special issue on all-malt brewing. Wonderful! The editorial discussed the desirability of making your beer as personal as possible. For example, if you use malt extracts, always buy light malt, not amber or dark; buy loose hops, not a hopped extract.

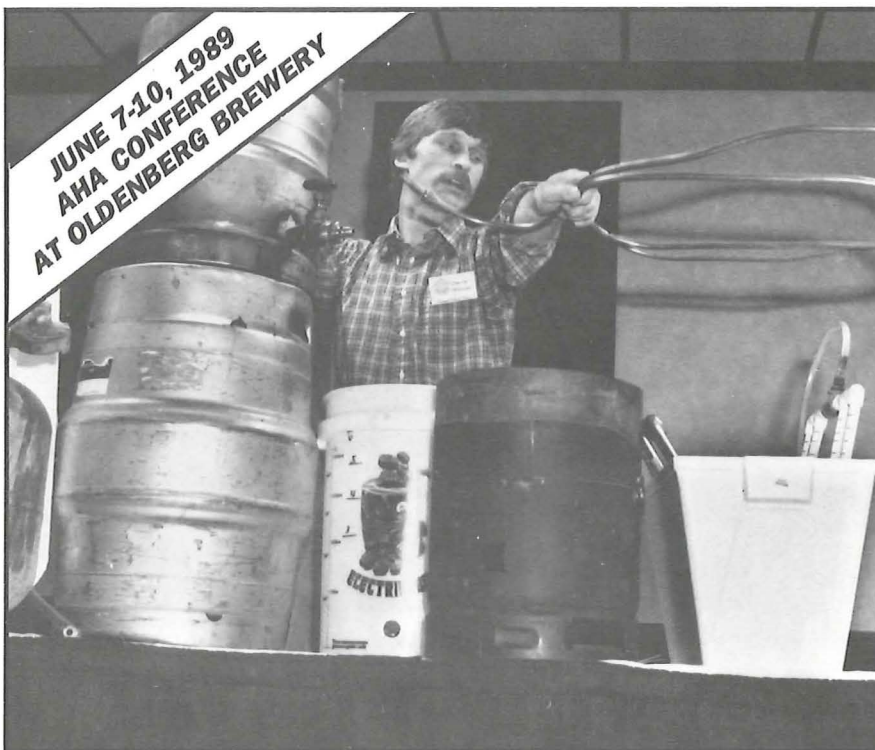
We were inspired by the editorial, and bought light extract for our next three beers, an Imperial stout, a heavy porter, and an amber Oktoberfest. Then we checked every malt extract recipe in that issue, in *The Complete Joy of Home Brewing*, and in the Winners Circles that we have around the house. Every recipe for a dark beer calls for dark or amber extract to which you add more specialty dark grains.

Help! Even a few generic equivalents to play with would help, i.e., five

pounds dark equals five pounds light plus X pounds X malt for an X type of beer. You could also play around with some recipes (hope, hope).

Considering a Russian Imperial  
Blond,  
Sandy Herald  
Vancouver, Washington

*For all those who never received our popular Homebrewers Wallchart (now out of print), here's a reprint of a section titled "Using Specialty Malts" that appeared in it. For a reprint of the*



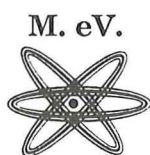
## Brew your brains out.

Isn't that what life is all about? Good brewing? From June 7-10, 1989, a couple hundred people are going to get together under one roof and brew their brains out. Brewing has never had such a celebration. Come to Oldenberg Brewery, Ft. Mitchell, Ky., for the AHA National Conference and join your fellow celebrants of the delight of fermentation.

*For more information about the Conference and how you can participate, write or call the American Homebrewers Association, PO Box 287, Boulder, CO 80306, (303) 447-0816.*







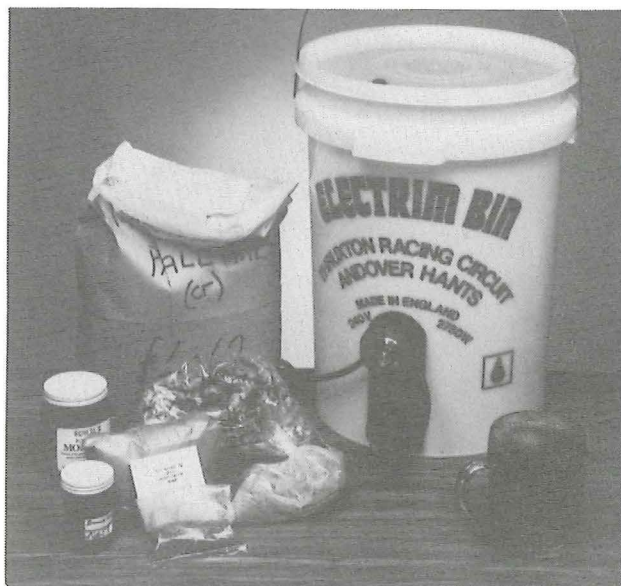
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England

entire chart, see page 8, "Free from the AHA."

—Editor

### Malt Extract Conversions

5 pounds very dark malt extract = 5 pounds light or amber malt extract + 2 cups roasted, black or chocolate malts.

5 pounds medium brown malt extract = 5 pounds light or amber malt extract + 1 cup black, roasted or chocolate malts + (optional) 1 or 2 cups crystal or Munich malts.

5 pounds amber malt extract = 5 pounds light malt extract + 2 cups crystal or Munich malt = 5 pounds light malt extract + 1/2 cup black, roasted or chocolate malt.

### Sausage Open

Open letter to all prospective attendees of the 1989 AHA National Homebrew Conference:

Ah homebrew, ah the joys of tasting. Often when you're sipping a few you enjoy munching on something. What better companion to a great beer than great sausage?

We'd like to invite anyone who is interested to participate in the "First Epicurean Delight Sausage Open." This informal tasting and judging will be on Homebrew Club Night at the AHA National Conference in June.

Here's how to join in the fun. Bring one or two double loops of your favorite smoked sausage. The sausage can be either homemade or commercial; no distinction will be noted. A number or letter will be assigned to each sausage sample. The sausage will then be sliced and available to everyone milling about for tasting and judging. Then, each person may vote for his or her favorite sausage.

To minimize problems in transporting and serving these sausages, we have to limit the tasting to smoked sausages only.

Bring on your best! Let's decide this burning issue!

Sausily yours,  
Dave Norton  
Kenosha, Wisconsin  
Maureen S. Nye  
North Hollywood, California  
Bill J. Pfeiffer  
Wyandotte, Michigan



# BREW NEWS

MIKE SANDROCK

## Icelandic Beer Ban Removed

Beer drinkers will have another reason to travel when it becomes legal to drink beer in Iceland for the first time in 73 years beginning in March.

Iceland's Parliament recently voted to repeal a 1915 law prohibiting beer sales, ending Iceland's distinction of being Europe's only brew-free zone. The 250,000 inhabitants of the North Atlantic island nation have been able to buy beer produced by the country's two liquor stores in a couple of state-owned stores since March 1.

All beverages containing alcohol were banned in 1915, but in 1933 the law was amended to allow the sales of wines and spirits. "It's hard to give a logical explanation of why we're allowed to drink whiskey but not beer," said an Icelandic official.

But legislators hope that allowing beer sales will cut down on the drinking of hard liquor, which now accounts for more than 80 percent of the alcohol consumed in Iceland, compared with 32 percent in the United States.

## Flying Beer Cans?

The National Aeronautics and Space Administration has said that miniature spacecraft, about the size of beer cans, could be launched by electromagnetic guns to conduct dozens of different experiments. According to *Linn's Stamp News*, instead of using explosive power to propel the small cans into space, electromagnetic guns



ILLUSTRATION BY JOHN MARTIN

would generate powerful electrical pulses that would accelerate projectiles to very high speeds.

## Tortillas and Beer

Oregon's Hood River Brewing Co. received a 1988 National Award for Energy Innovation for an energy-saving project. The U.S. Department of Energy selected the brewer for its "Bakery-to-Brewery Waste Heat Recovery Project" that uses heat from ovens at a tortilla factory to heat more than 15,000 gallons of 180-degree water each month for brewery use.

Hood River is a "craft brewery" that makes Full Sail Golden Ale and a variety of specialty ales using the traditional batch method of brewing.

## Sterling Brewery Reopens

The new Evansville Brewing Co. has completed purchase of the Sterling Brewery at Evansville, Ind., from the G. Heileman Brewing Co. and has hired 100 staff and production workers. Heileman ceased production at the brewery in April 1988. The brewery makes Sterling and Falls City



Beer, owns the Drewry's and Cooks brands, and has the right to produce Wiedemann.

## Microbrewers Conference Set

The Institute for Brewing Studies will host the National Microbrewers Conference in San Francisco, Calif.,

Aug. 30 through Sept. 2. The conference will be at the Hilton Square Hotel and will include talks about opening, operating, managing and marketing micro- and pubbreweries.

There also will be talks, presentations, panel discussions, beer tastings and a microbrewery trade show featuring brewing, bottling and dispensing equipment. A preconference

brewery tour will visit 10 southern and central California breweries. For more information write the Institute at PO Box 287, Boulder, CO 80306, or phone (303) 447-0816.

## World's Leading Brewers

The top-ranked brewing companies rated on 1987 sales volume were

# CALENDAR OF EVENTS

- |                    |  |                 |  |
|--------------------|--|-----------------|--|
| March 11           | 1989 Kansas City Biermeisters Homebrew Competition, Merriam, Kan. Contact Walt Mackin at (913) 236-5953 for more information. Sanctioned by the HWBTA.   | June 2-4        | Greater Montana Brewers Cup, sponsored by the Zoo City Zymurgists of Missoula, Mont. <b>AHA Sanctioned Competition.</b> Open to homebrewers from Montana, Idaho, Washington, North Dakota and South Dakota. Entry deadline is May 12. Call or write Chuck Zadra, 5018 Orchard Ave, Missoula, MT 59803, (406) 251-2557. |
| March 17           | St. Patrick's Day Stout Contest, Madison, Wis. <b>AHA Sanctioned Competition.</b> Entries due March 15. For information contact Cara Doyle at (608) 257-0099.  | June 4          | Southern California Regional Homebrew Championship, Pomona, Calif. Entry deadline is May 28. Contact Sam Wammack, The Home Brewery, 16490 Jurupa Ave., Fontana, CA 92335, for details.   |
| March 26, April 2  | Capitol District Homebrewers Competition, Rensselaer, N.Y. <b>AHA Sanctioned Competition.</b> Entries due March 25. Contact Jay Hersh, Box 352, Troy, NY 12180, (518) 276-8047.  | June 7-8        | Finals judging for AHA National Homebrew Competition, Oldenberg Brewery, Ft. Mitchell, Ky.   |
| March 30-April 8   | Judging for the Third Annual Gem State Homebrew Competition, Boise, Idaho. <b>AHA Sanctioned Competition.</b> Entry deadline is March 22. Call Byron Defenbach at (208) 377-6110 for details.  | June 7-10       | AHA 11th annual National Homebrewers Conference, Oldenberg Brewery, Ft. Mitchell, Ky. Contact AHA at (303) 447-0816.   |
| April              | 1989 Bidal Society Homebrew Competition, Kenosha, Wis. Sanctioned by the HWBTA. For information call Dave Norton at (414) 694-7591. Date to be announced.  | July 15-16      | Wisconsin State Fair Regional Competition. Inquiries must be made by June 24. Contact Jerry or Mary Uthemann, c/o The Purple Foot, 3167 S. 92nd St., Milwaukee, WI 53227, (414) 327-2130.  |
| April 22, April 29 | Judging for HWBTA National Beer Competition, Charlotte, N.C. Entries must be sponsored by HWBTA-member retail shops and received by them. Entry deadline in Charlotte is April 12. Contact Jess Faucette at (800) 365-BREW.  | July 19         | Santa Clara County Fair Homebrew Competition, San Jose, Calif. <b>AHA Sanctioned Competition.</b> Write or call Robert Hight, 433 California St., Santa Clara, CA 95050, (408) 247-6853 for details.   |
| April 24           | Entry deadline for AHA National Homebrew Competition.  | Aug. 19         | Ventura County Fair Homebrew Competition, Ventura, Calif. <b>AHA Sanctioned Competition.</b> Entry deadline is Aug. 12. Write or call Diane or Ed Keay, 183 Nob Hill Lane, Ventura, CA 93003, (805) 642-0571 for more information.   |
| April 29           | Maltose Falcon Home Brewing Society Regional Mayfaire Competition, Woodland Hills, Calif. Entry deadline is April 22 at 5 p.m. <b>AHA Sanctioned Competition.</b> Entries are welcome from anywhere, as are Recognized or higher beer judges. For details write: Competitions, Maltose Falcon Home Brewing Society, 22836 Ventura Blvd., Unit 2, Woodland Hills, CA 91364. | Aug. 30-Sept. 2 | National Microbrewers Conference, Hilton Square Hotel, San Francisco, Calif. Contact the Institute for Brewing Studies at (303) 447-0816 for details.  |
| May 3-6            | Homebrewers Alliance National Conference and Competition, St. Louis, Mo. Sanctioned by the HWBTA. Open to all homebrewers. For more information contact Bacchus and Barleycorn afternoons at (314) 644-4664 or Jason Held evenings at (314) 723-2172. (NOTE: these are new dates.)   | Sept.           | Second Annual Los Angeles County Fair Homebrew Competition. Entries welcome from anywhere as are Recognized or higher beer judges. Write Competitions, Maltose Falcons Home Brewing Society, 22836 Ventura Blvd., Unit 2, Woodland Hills, CA 91364. Dates to be announced.   |
| May 6              | Bock is Best AHA Club Competition. Entries due April 28. For details call AHA at (303) 447-0816.   |                 |  |
| May 6              | National Homebrew Day  |                 |  |
| May 13             | Fizz's Spring Fling Homebrew Competition, Ft. Lauderdale, Fla. Entries due May 6. Contact Evelyn Robinson, 2626 SW 14th Ave., Ft. Lauderdale, FL 33315, (305) 462-2120.  |                 |  |

## BEER JUDGE CERTIFICATION EXAM SCHEDULE

- |          |   |
|----------|---|
| March 11 | Kansas City, Kan. Alberta Rager, (913) 262-4243.        |
| April 28 | Charlotte, N.C. Jess Faucette, (800) 365-BREW.          |
| May 6    | St. Louis, Mo. Dave Miller, (314) 772-6844.             |
| May 11   | Toronto, Ontario, Canada. Dee Roberson, (813) 685-4261. |
| June 10  | Fort Mitchell, Ky. AHA, (303) 447-0816.                 |



Anheuser-Busch (USA), Miller (USA), Heineken (Netherlands), Kirin (Japan), Bond (Australia), Stroh (USA), Elders (Australia), Groupe BSN (France), Adolph Coors (USA), Brahma (Brazil), Antarctica Paulista (Brazil), and South African Breweries (South Africa).

The world's leading beer brand was Budweiser, followed by Kirin, Miller Lite, Heineken and Antarctica.

### Warning Label Bill Approved

The Omnibus Drug Bill, which includes a provision requiring warning labels for alcoholic beverages, was signed into law in October 1988. The bill goes into effect Sept. 1, 1989. The warning will read as follows:

1) According to the Surgeon General, women should not drink alcoholic beverages during pregnancy because of the risk of birth defects.

2) Consumption of alcoholic beverages impairs your ability to drive a car or operate machinery and may cause health problems.

### "Ultra-Premium" Beer

Anheuser Märzen, the first "ultra-premium" beer brewed in the United States by Anheuser-Busch, is being made at the company's 118-year-old flagship brewery in St. Louis. Named for company co-founder Eberhard Anheuser, it is modeled after German Märzen beers brewed in March and served only during the Oktoberfest.

### Labeling Charges Settled

According to the *Ohio Beverage Journal*, the federal Bureau of Alcohol, Tobacco and Firearms accepted a \$50,000 offer-in-compromise from the Pabst Brewing Co. to settle charges of improper labeling and advertising of draft beer. The Bureau said Pabst's product did not meet draft beer specifications because it was partially or fully pasteurized.

### Slow Music Speeds Drinking

Researcher James Schaefer of the University of Minnesota has finished

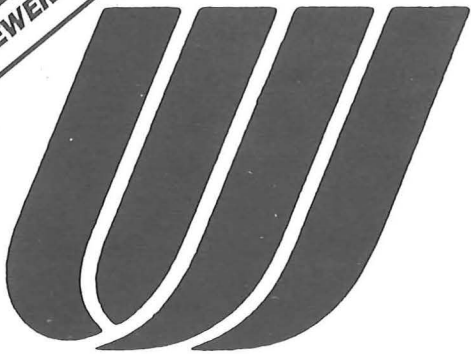
a 10-year study of a bar in Missoula, Mont., that concludes that people in country-western bars drink faster to "wailing, lonesome, self-pitying music."

Schafer said his findings, which were supplemented by a study of 2,000 groups of people in 65 saloons around Minneapolis, "don't warrant a surgeon general's warning or anything," but people "should be aware that they are more likely to lose their control and self-restraint in a country-and-western bar than anywhere else."

### Weird Brew

The Alexandria, Va., homebrew club, Brewers United for Real Potables, does something different for its Oktoberfest celebration. BURP held a Weird Beer contest, which includes any brew made from barley malt and something else. The something else can be anything out of the ordinary: herbs, fruits, vegetables, animal parts, old sweat socks. Some of the interesting beers have included beer made with processed bacon fat and

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**Q:** What do Seattle, Portland, San Francisco, Los Angeles, Denver, Houston, New Orleans, Miami and Boston all have in common?

**A:** They are all about a \$250-round-trip air fare away from the AHA National Conference at Oldenberg Brewery, Ft. Mitchell, Ky.

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For more information about the Conference and how you can participate, write or call the American Homebrewers Association, PO Box 287, Boulder, CO 80306, (303) 447-0816.





"Cock Ale" made with chicken bones. For more information about BURP write Bill Ridgely at 7430 Gene St., Alexandria, VA., 22003 or call (703) 971-5744.

### Marriage Blamed on Drinking

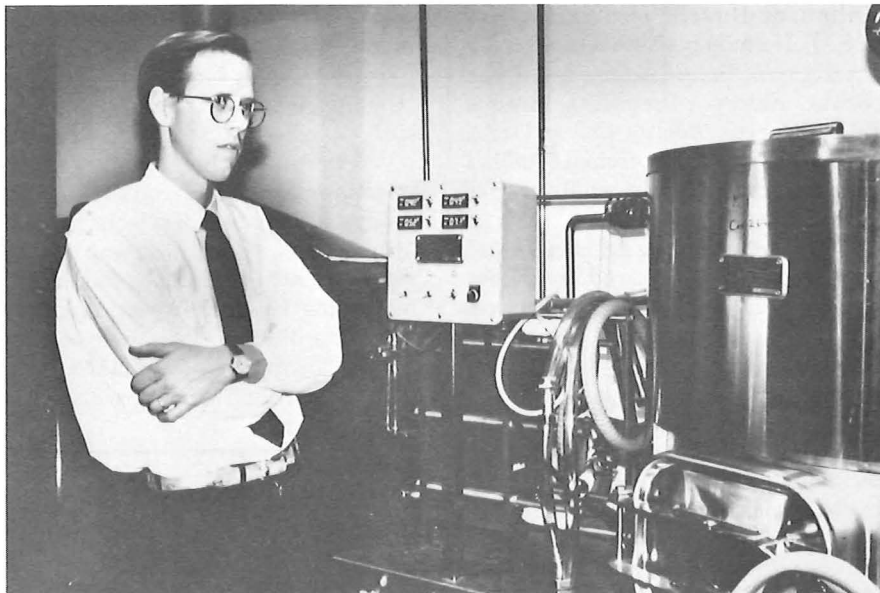
According to *American Breweriana Journal*, Willard Roberts, a 32-year-old Nashville man, wants to end his marriage. He says he was drunk when he married 230-pound Lisa Dickson. Roberts allegedly got cold feet after proposing, and says Dickson sat on him for 10 minutes until he agreed to go ahead with the wedding.

### Potomac Highlands Homebrew Convention

The Potomac Highlands Homebrew Convention was held last summer in the eastern mountains of West Virginia. According to Convention organizer Jim Plitt, the competition was "no-holds-barred," with Mason-jar Prohibition beer judged with American Light lagers and all-grain porters. Chris Quasebarth, a lawyer from Morgantown, W.Va., won first place with "Mimi's Main Mash."

### Beer Festival to be in Fall

The Great American Beer Festival will be Oct. 20 and 21, a change



**Russell Schehrer, Brewmaster at Wynkoop Brewing Co., Denver, Colo., in the brewhouse during opening night festivities in October 1988.**

from the historical spring date. "We want to capture more of the traditional feeling of beer culture," said festival director Daniel Bradford.

This year's event should be the biggest ever. More than 200 brands are expected. Last year's festival saw 168 beers presented to nearly 5,000 people from throughout the United States. Sixty-one of those beers were drafts, and 19 separate beer styles were represented, from the world's largest brewery to the smallest.

Charlie Papazian, Association of Brewers president and festival

founder, said he is dedicated to "creating a true domestic beer festival. We're aiming for every brewery to have beers in our hall." Added Bradford, "We are dedicated to American breweries exclusively, and can't believe how much that is expanding."

For more information write the Great American Beer Festival at PO Box 287, Boulder, CO 80306, or call (303) 447-0816.

### Best of Fest Results

Jason Held, of St. Charles, Mo., representing the St. Louis Brews homebrew club, won first place in the AHA Best of the Fest club competition, judged in January.

As part of his prize, Held traveled to Boulder, Colo., on Feb. 4 to brew his unnamed winning beer at the Boulder Brewing Co.

Second place went to the Beer Brewers of Central Connecticut, for club member Ron Page's "Trapeze Artist." The Deep Wort Brew Club of Colorado Springs, Colo., took third place with "Highland," a group brewing effort.

## AHA Sanctioned Competition Results

### The November Classic

The November Classic '88 at Tripp Commons, Memorial Student Union, Madison, Wis., had 21 entries. The first-place winners in the "This" category with 11 entries were Dwight Beebe and Karl Smith of Madison for "Dual Porter." The first-place winner in the "That" category, with 10 entries, was

Russell Whitenack of Columbus for "Porter Two."

### Novice Homebrew Competition

The First Annual Novice Homebrew Competition was Dec. 10 in Ft. Lauderdale, Fla. The first-place winners in their respective categories were as follows: John Giancotti of Miami Lakes for pale ale

and also for Pilsener; Dan Poe of California, Md., for continental light; Jim Wilson of Big Pine Key for continental dark; Jerry S. White of Jamestown, R.I., for porter; Ray Taylor of Fargo, N.D., for stout; Laurie Parsons of Evergreen, Colo., for specialty beer; Irving Robinson of Ellicott City, Md., for mead; and Evelyn Robinson of Fort Lauderdale for country wine.



## American Mead Association Defunct

Effective Jan. 31, the American Mead Association ceased all activities. Association president Pamela Spence reports that, with the birth of twin girls Dec. 3, 1988, it is no longer possible for her to keep running the organization. However, she and Mike Sisson will continue to research and write about mead and will respond to correspondence as time permits.

## Collectible Buttons

Photos for "The Best of the Better Beer Slogans" in *zymurgy* Fall 1988 (Vol. 11, No. 3) are from *Collectible Pin-Back Buttons 1896-1986* by Ted Hake and Russ King. The 320-page hardcover book has pictures and prices of more than 5,000 historic and graphic collectible buttons. The book is available from Americana & Collectibles Press, PO Box 1444, York, PA 17405.

## Small Brewery Update

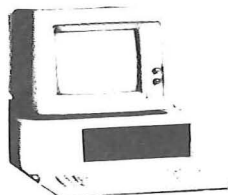
CALIFORNIA — Along with the recent onslaught of brewery openings there have been several closures. The Redding Brewing Co. closed Dec. 30 after six months of operation. Other closures included Local Brewing Co., a micro that opened in March 1988; Golden Gate Brewing Co., a brewpub that opened in June 1988; and Pasadena Brewing Co., a contract brewer.

DENVER, Colo. — The Wynkoop Brewing Co., a 140-seat restaurant and brewery, has opened in the historic lower downtown area of Denver. The four owners of the brewpub, located in an 1889, 11,000-square-foot brick warehouse with its original tin ceiling and oak panelling, are John Hickenlooper, Jerry Williams, Mark Shiffler and Russell Schehrer. Company President Hickenlooper said "We want to base our reputation on beer quality, but I expect we will do very well in food." Brewmaster Schehrer is a long-time homebrewer who won the 1985 "Homebrewer of the Year" Award. "It was quite a challenge to go from five to 250 gallons, but well worth it," Schehrer said. "I'm happier brewing than I was programming computers." The beer list includes

Timberline pale ale, Wynkoop wheat beer, St. Charles extra special bitter, and Sagebrush stout.

ELMHURST, Ill. — Pavichevich Brewing Co., named after founder Ken Pavichevich, is expected to open soon. It will be the first microbrewery in Illinois. Brewmaster Doug Babcook is a former senior vice president of brewing for Stroh Brewing Co.

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**August 30 to September 2, 1989**  
**Hilton Square Hotel, San Francisco**

For information on registration and discounts, contact the Institute for Brewing Studies, PO Box 287, Boulder, CO 80306 USA • (303)447-0816.

MINNEAPOLIS, Minn. — Minnesota's first brewpub, the Taps Waterfront Brewpub, owned by Rick Janusz, is housed in an 1890s building that once was a stable. The three-story operation will include a comedy club on the top floor, the restaurant and pub on the main floor and a private club and brewhouse in the basement. Both ales and lagers are planned.



CLEVELAND, Ohio — Great Lakes Brewing Co. opened last September as the first brewpub in Ohio. The 10,000-square-foot brewpub is housed in an 1860 Victorian building in the center of town that was once the Market Tavern. The place was a favorite haunt of Elliot Ness, who moved to Cleveland after his famous work in Chicago ended. Owner Pat Conway named his first brew, a Vienna-style lager, Elliot's Amber.

BEND, Ore. — The Deschutes Brewery and Public House opened last summer. It is owned by Gary Fish, a 15-year veteran in the restaurant business.

PORTLAND, Ore. — Mike and Brian McMenemy now have five brewpubs in their 14 taverns, with two more on the drawing board.

The new brewpubs are Highland Pub and Brewery in Gresham and Fulton Pub and Brewery in Portland. Both are brewing the McMenemy line of beers: Cascade Head Ale, Ruby

Tuesday (a fruit ale), Crystal Ale, Terminator Stout and Hammerhead Ale.

BURLINGTON, Vt. — The Vermont Pub and Brewery was opened last fall by author-brewer Greg Noonan, his wife Nancy, and Shawn Holbrook. The 150-seat brewpub, the first in Vermont, is expected to produce about 900 barrels of brew a year, including Burly Irish Ale and Pesky Serpent, a Bohemian Pilsener.

Noonan is looking for homebrew labels to display in the brewpub, and will accept them at 144 College St., Burlington, VT 05401. "For one of your labels, coasters, giveaways, T-shirts, etc, we will return your submission in kind," Noonan said.

VIRGINIA BEACH, Va. — The Chesapeake Bay Brewing Co. was sold recently for an undisclosed amount. The new ownership has renamed the company the Virginia Brewing Co., and plans to reformulate all the products and change the names and graphics.

SEATTLE, Wash. — Triple Rock Brewpub in Berkeley has a twin in Seattle, the Big Time Brewing Co. Owners Reid and John Martin are hoping to repeat their success in the new area. The 14-barrel, full-mash brewhouse, in a 5,200-square-foot building that once was a church, is from JV Northwest.

Said Martin of the name of the new company: "We just like the name because we're really small time and don't want to take ourselves too seriously."

TRI-CITY, Wash. — Tri-City Brewing Co. became the eighth microbrewery in Washington when it opened in October 1988. Owners Dave and Janice McHeen, along with Jay and Ruth Fordham, outfitted the brewery for less than \$50,000. Tri-City is currently producing McHeen's Golden Ale, made from two-row Klages barley malt, Cascade hops and an experimental hop from Hopunion.

Dave McHeen is also planning a red ale, stout and lager.



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## JACKSON ON BEER

MICHAEL JACKSON

# North vs. South in The Netherlands



he great North-South divide seems to split most countries. The North of The Netherlands has always been out-breweried by the South. It has something to do with religion. I am

not sure this is true in Ireland, but it certainly is true in The Netherlands (and Germany) that the Catholic South drinks more than the Protestant North.

Until now, though, most of the beer in the South has been lager,

ranging from the ordinary to the decent. Now there is a sprinkling of new brews, and a new brewery producing a Pilsener-style lager, but a very hoppy one.

With 43 to 44 international units of bitterness, *Christoffel Bier* is one of the driest Pilseners in the world. It is very hoppy indeed, in aroma, palate and finish. An unpasteurized, all-malt beer of 1.048, it is produced in the 18-month-old St. Christoffel microbrewery, in Roermond, in the Dutch province of Limburg.

St. Christoffel is the patron saint of Roermond, an old coal-mining town whose last brewery closed in 1925.

Leon Brand, owner of St. Christoffel, is a member of the well-known Dutch brewing family, studied in Roermond and developed an affection for the place. After further studies at the famous brewing facility in Weißenstephan, Bavaria, and some experience in the drinks distribution business in Germany, he returned to The Netherlands and restored brewing to the town.

He lives in a house adjoining the anonymous, shedlike building that



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houses the brewery. Inside the building, his smart, brick-jacketed kettle has a beaten copper dome that he found in a farmer's barn. The dome is 80 years old. Most of the rest of the equipment is newer, and Brand has already found it necessary to add more lagering tanks.

"We underestimated demand," he explains, chancing a smile. The

kettle holds 15 hectoliters, and he currently is brewing three times a week. Most of the time he runs the place with one assistant, but it takes five people to run the hand-fed bottling line. All the bottles are swing-top, and his specialty is two-liter jugs.

"We get about 15 percent of those back," he says, chancing

another smile. He still has a little way to go before he reaches his break-even point of 2,500 hectoliters, but obviously believes he will get there because he is now equipped to handle 4,000 to 5,000.

Another newish beer in these parts is an amber-red, all-malt, unpasteurized Vienna-style lager of 1,048-plus from the old but very small Lindeboom Brewery, at the village of Neer, also in the northern part of Limburg.

This brew, called *Gouverneur*, is malt-accented, soft and very drinkable. It is a modest specialty, but a welcome addition to the range of styles available in The Netherlands.

The most interesting new brews in Limburg are the new Double Bock (1.074 to 78) from the original Brand brewers, and the same company's strong, top-fermented, bottle-conditioned *Sylvester*.

This is a highly distinctive, fruity and complex ale, especially in its aroma. It was originally made in a very complex way, using a bottom-fermenting yeast for its primary and a top strain for its secondary.

I have never before encountered such a procedure, although the opposite is quite common. Several top-fermenting products in Belgium and Germany use a bottom yeast for bottle-conditioning in order to settle well. In any event, Brand discovered that such zymurgic athleticism was unnecessary, and switched to pure top fermentation.

The most unusual beer of all in The Netherlands today is the unpronounceable *Mestreechs Aajt*, from the Gulpener brewery. In welcoming this product, one noted expert observed that it seemed to have some intentional wild fermentation. Indeed it does.

The brewery started the process by exposing to the atmosphere wort that had undergone a primary, but not a secondary fermentation. The wort became inoculated with lactobacilli and *Brettanomyces* (wild yeasts), not at the brewery but "in a special place."

The brewery then spent three years experimenting with fermentations before it found the character it needed. Each of these fermentations took 14 to 16 months, and they were



initially carried out in various cognac and wine barrels.

These were the only wooden barrels that were readily available, but their cognac and wine characters were interfering with the beer. However, the brewery learned enough to invest in half a dozen specially built wooden tuns of 15 hectoliters each.

The object of fermenting in barrels was to persuade the lactobacilli and Brettanomyces to take up residence in the wood. To be sure that the wild microflora did not escape, the brewery also sealed the room.

During the experimental period, only about 10 percent of the beer produced was usable. Now, it can all be used. By "used," I do not mean "sold." Not straight, anyway. After a period of a year in wood, the wild-fermented beer is blended with a proportion of the company's "Old Brown," a dark lager.

Each of these beers is thoroughly filtered before the blending process. They are intended to provide a blend of tastes, and they succeed very well: the winy, fruity, sourish, wild-fermented beer and the sweet, brown lager.

In the blend, about 25 percent of the beer is the wild-fermented product. The final alcohol content is 3.5 by volume, and the beer is presented as a light, but tasty, summer quencher.

While original wild inoculation is reminiscent of the Lambic process, the blending procedure is similar to that used by Belgian brewers like Liefmans and Rodenbach, or by Greene King in their Strong Suffolk, or Guinness in their tropical *Foreign Extra Stout*.

The more I discover about such products, the more it seems that the intentional use of Brettanomyces in particular was once a feature of old ales, barley wines and strong porters or stouts in Britain.

I wonder whether any of today's British brewers would be so wildly adventurous.

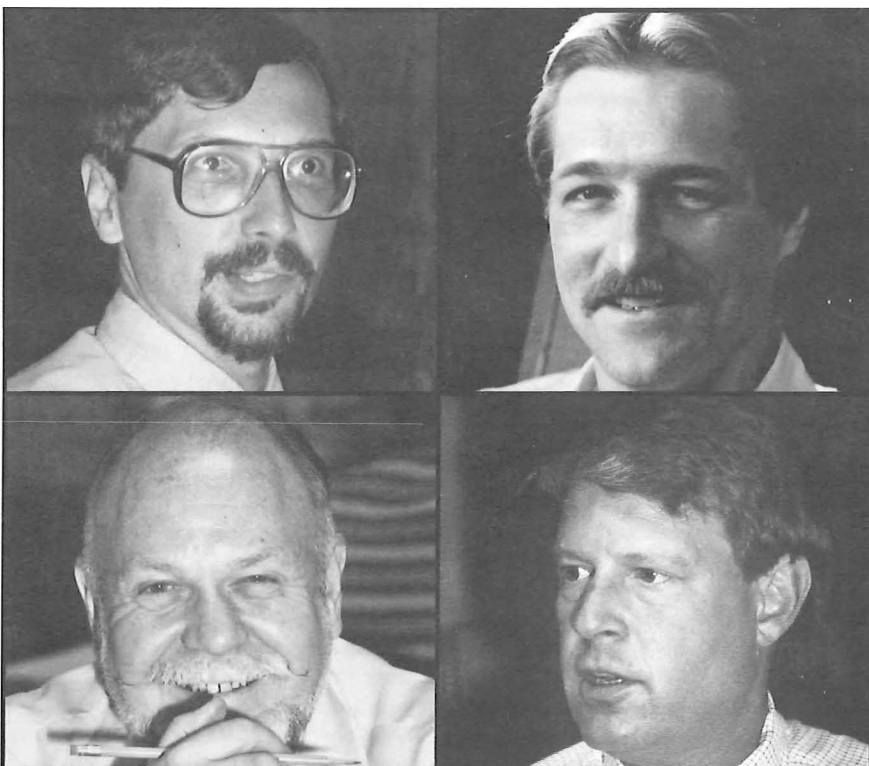
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Clockwise from top left: Dave Miller, Greg Noonan, George Fix and Fred Eckhardt.

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# Carbonation Techniques and Safety

*How to get the right amount of fizz in your beer and how to minimize the consequences when you have too much.*

D. ERIC KNUDSEN



modern mythology has grown up around homebrewers and their sometimes bizarre and tragic encounters with exploding bottles. These stories intimidate and needlessly discourage newcomers. Exploding bottles are usually the result of an inexperienced brewer bottling beer before fermentation is complete. Outdated recipes often give very bad advice, leading to excessive priming levels. More rarely, explosions result from infection by a dextrin-fermenting wild yeast. If a few basic precautions are taken to minimize these potential problems, homebrewing can be entirely (well, almost entirely) safe.

It is dangerous to bottle beer without using a hydrometer. Two checks should be made before deciding if it is safe to bottle — has the specific gravity fallen a reasonable amount and is the specific gravity stable? In an all-malt brew the specific gravity usually will fall to a quarter of the original gravity or less. Typically a beer with a starting gravity of 1.045 will ferment to a final

gravity of between 1.008 and 1.012. Cane and corn sugar are entirely fermentable, therefore beers made with about half malt and half sugar will have much lower final gravities. They will have about an eighth of the original gravity or less, typically 1.003 to 1.005.

If your beer apparently finishes above these ranges, be suspicious! Depending on mashing technique or the characteristics of the malt extract you are using, a final gravity as high as a third of the original gravity or more may be normal. Leave the beer in the secondary fermentation vessel an extra few weeks to see if fermentation will restart. Beers fermented at cold temperatures are prone to this kind of behavior.

To be certain that fermentation is complete when the specific gravity falls to a reasonable level, check that

the gravity remains stable with no further fall for a full week. At this time the beer should be clear. Bubbles should only go through the airlock once every few minutes. If this is not the case, wait until these goals are achieved. The beer will then be ready for priming and bottling.

Some homebrewers attempt to compensate for poor heads on their beer with excessive priming. It doesn't work. A head composed of large bubbles that quickly dissipate rarely is caused by inadequate carbonation. This type of head usually is the result of low malt content and inadequate aging. A well-aged, properly brewed all-malt beer will have a thick, creamy, long-lasting head even with fairly low carbonation. It is not possible to accurately estimate carbonation levels by observing the head. It is much better to rely on taste.

The carbon dioxide content of beer usually is expressed in terms of volumes of CO<sub>2</sub>. For example, a liter of beer with a carbonation level of two volumes of CO<sub>2</sub> would contain a quantity of dissolved carbon dioxide that, in gaseous form, would occupy a vol-

	Volumes of CO <sub>2</sub> gas dissolved in beer	Carbon dioxide percent by weight
Traditional bottled ales	2.0	0.39
Most lagers	2.4	0.47
Highly carbonated beers	2.8	0.55

TABLE 1. Typical final CO<sub>2</sub> content of bottled beers.



ume of 2 liters under standard conditions (sea level pressure and 0 degrees Celsius). This quantity of carbon dioxide would weigh 3.9 grams; therefore the beer would be 0.39 percent CO<sub>2</sub> by weight.

Table 1 shows the normal range of carbonation levels found in commercial beers, although a few exceptions such as wheat beers have higher carbonation levels. Some draft beers have a much lower CO<sub>2</sub> content. Soft drinks typically are carbonated to 3.5 volumes.

### Easy to Calculate

It is easy to calculate the amount of sugar priming required to create these quantities of carbon dioxide. Sugar is converted by the yeast enzymes into almost equal portions by weight of carbon dioxide and alcohol, with an insignificant loss in byproducts. For example, one gram of sugar would be converted into 0.5 grams of CO<sub>2</sub> and 0.5 grams of alcohol. To put it another way, if a 12-ounce bottle of beer has 1 percent of its weight in white sugar (about 3.4 grams) added as priming, it will increase both the carbon dioxide and alcohol content by 0.5 percent by weight.

Unfortunately, in practice the situation is not that simple. The problem is that most beer, when it is ready to be bottled, will already contain a considerable quantity of dissolved carbon dioxide. It will also contain dextrins, a small portion of which will break down into fermentable sugars



PHOTO BY DAVID BJORKMANN

# Bottling Beer? Test Your Sugar!

## NANCY VINEYARD



Most homebrewed beer is carbonated by priming with a measured amount of corn sugar at a fermentation end point predicted by the original specific gravity of the beer. This final (or terminal) gravity is calculated as one-fourth the original gravity (often higher in dark beers) as measured with a saccharometer (sugar scale hydrometer) prior to fermentation. Most recipes indicate

the starting gravity and suggest what to look for when testing the end point using a saccharometer.

But even under the best conditions, similar ingredients fermented under the same physical conditions do not always ferment to the predicted terminal point. This is mainly because of variations in the percentages of fermentable to non-fermentable sugars in different malt extracts and different mash temperatures during all-grain mashing. Also, some yeast strains ferment more efficiently than others do.

*continued on page 28*

	Volumes of CO <sub>2</sub> gas dissolved in beer	Carbon dioxide percent by weight
Traditional bottled ales	1.3	0.26
Most lagers	1.7	0.33
Highly carbonated beers	2.1	0.42

**TABLE 2.** Additional carbon dioxide required assuming the beer already contains 0.7 volumes of dissolved CO<sub>2</sub> or sugars that will ferment to create that level.

that will be converted into carbon dioxide and alcohol. The priming rate must be reduced to compensate for these factors. It is usually reasonable to assume that typical homebrew will have about 0.7 volumes (0.014 percent by weight) of actual or potential carbon dioxide dissolved in it. Tables 2 and 3 have been prepared on that basis.

Very strong all-malt beers can be bottled with no priming whatsoever if the brewer is willing to wait months for the brew to become carbonated as a result of the slow breakdown and fermentation of some of the dextrins.

Beers lagered at temperatures close to freezing prior to bottling may have a carbon dioxide content of up to 1.7 volumes even though they are at atmospheric pressure — much higher than could occur in beers fermented at room temperatures. It would only be necessary to increase to CO<sub>2</sub> content to one volume or less — the priming level should be adjusted proportionally.

Either bulk priming with a sugar solution or bottle priming with dry sugar can produce good results. There is a possible danger of infection from dry sugar — it cannot be sterilized by boiling as is done when bulk priming.

This danger must be balanced against the risks of infection and oxidation incurred as a result of transferring and mixing required by bulk priming.

I bottled using the bulk priming system for years before I discovered how much easier and quicker it is to simply put a measured quantity of dry sugar in each bottle before siphoning the beer directly from the carboy in which it was fermented. White sugar is easier than corn sugar to pour and measure for bottle priming (it flows and levels better). There have not been any problems with infection. A possible compromise is bottle priming with solutions — a little math is required to calculate quantities. This is very effective if you wish to prime with molasses or to treat only part of a brew with caramel coloring. Outrageous as these schemes are to purists, there is precedent in traditional English commercial brewing, particularly with draft beers.

Granulated white sugar is very easy to measure — 100 grams has a volume of approximately 100 milliliters and therefore a level half teaspoon (2.5 ml.) holds 2.5 grams. Most American homebrewers appear to prefer to prime with corn sugar. The small amounts required for priming

cause no significant taste difference. If you use corn sugar for priming, increase quantities by 25 percent by weight. Reserved wort (kraeusening) can also be used for priming. When you calculate quantities of krausen required, remember that the solids content of wort is only about 80 percent fermentable.

If the brewer is careful to make sure fermentation is complete before bottling and primes the beer at a reasonable rate, errors in priming quantities caused by the factors just discussed will not result in exploding bottles. Beer bottles can withstand pressures well above normal carbonation levels. Each brewer will quickly discover what priming level suits his or her recipes, brewing techniques and tastes.

### Bacterially Fermented Dextrins

Beers normally contain large quantities of unfermentable complex sugars called dextrins. A small percentage of the dextrins may be broken down into simple sugars and fermented by brewery yeast (*saccharomyces cerevisiae* for ales, and *saccharomyces uvarum* for lagers) but most will remain to give beer body and character. Unfortunately, several strains of wild yeasts and spoilage bacteria can ferment dextrin. If your brew becomes contaminated with these microorganisms, excessive carbonation, gushing or exploding bottles are likely, especially with all-malt, full-bodied beers.

Microorganisms grow more slowly than ordinary yeast. Beer that tasted fine at the time of bottling may become undrinkable a month later. The result of this spoilage is a thin, dry beer with an extremely high car-

	For each 12-ounce bottle (grams)		For 5 US gallons (grams)		Increase in specific gravity	
	cane	corn	cane	corn	cane	corn
Traditional bottled ales	1.8	2.1	95	115	0.0019	0.0020
Most lagers	2.4	2.8	125	150	0.0025	0.0026
Highly carbonated beers	2.9	3.4	155	180	0.0031	0.0032

**TABLE 3.** Quantities of cane sugar (sucrose) and corn sugar (dextrose) required to add the volume of CO<sub>2</sub> suggested in Table 2.



bonation level and usually a harsh, very bitter flavor, sometimes referred to as yeast-bitten. Other common symptoms are haze formation, almost no head formation despite the carbonation level, and an assortment of off-tastes.

There is only one solution — kill the wild yeasts. All brewing utensils and containers must be soaked in a weak chlorine solution (one part household chlorine bleach to 100 parts water) before use (don't forget to rinse with clean water). Wort is most vulnerable to infection before fermentation begins. Encourage a quick start by either using two packets of dry yeast instead of one, or by using a yeast starter.

Minimize exposure to air by keeping the primary fermentation vessel covered. As soon as fermentation slows, transfer the beer to a carboy where it can be protected by an air-lock. Do not put the siphon hose in your mouth when starting flow. Your mouth contains many microorganisms that are harmless to you but deadly to beer.

Brewers will find that by careful sanitation not only will they reduce the possibilities for explosions, but also their beer will lose that distinctive "homebrew tang" so familiar to beer judges.

### Controlling Airspace

If, despite all these suggestions, too much carbon dioxide is generated in your beer bottle, you are going to have an explosion. If you expose your bottles to high temperatures you also risk explosions caused by differential thermal expansion (the beer expands more than the bottle). All you can do further is reduce the effects of the explosion. The best way to do this, contrary to homebrewing folklore, is to leave the smallest possible airspace in the bottle. It won't prevent stains on your rug, but the danger of cuts from flying glass is reduced. As a bonus, the lower air content of the bottles will result in less oxidation and better flavor.


Imagine a cold, sealed beer bottle, empty except for 1.4 grams (two volumes) of carbon dioxide gas. The pressure in the bottle, relative to the outside air, would be 14.7 pounds per

square inch. Now slowly fill the bottle, without releasing the CO<sub>2</sub>, with ice-cold water (or flat beer if you prefer).

Common sense would suggest that the pressure in the bottle will increase because the bottle now must contain both the CO<sub>2</sub> and water, instead of just the carbon dioxide. Fortunately, common sense is wrong — pressure in the bottle will fall to only

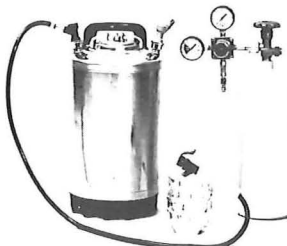
2.6 pounds per square inch, not increase (as long as the carbon dioxide is given a few minutes to dissolve in the water).

Cold beer has the ability to dissolve more than its own volume in CO<sub>2</sub> gas at atmospheric pressure. It gradually loses this ability to hold dissolved carbon dioxide as it warms up — beer lovers know from experience that an open bottle of warm beer



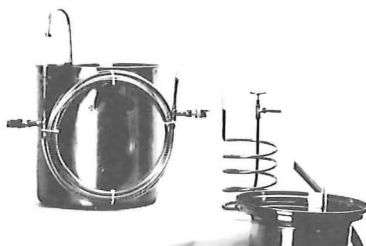
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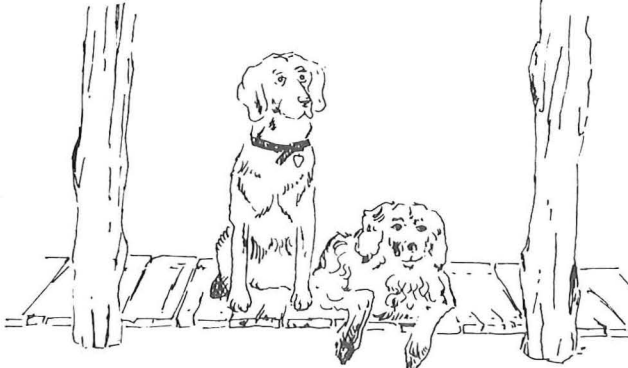
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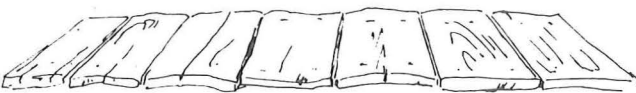
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quickly goes flat while open cold beer will retain much of its carbonation for hours. With water at 15 degrees C (about 60 degrees F), instead of ice-cold water, the pressure would fall only slightly.

If the experiment had been conducted with warm, 25 degrees C (almost 80 degrees F) water, the pressure in the bottle would indeed have increased by about 10 pounds per square inch instead of fallen.

Therefore, if we have two bottles both containing the same quantity of carbon dioxide, one of which is filled with water, at temperatures below 15 degrees C the bottle without water would be more likely to explode. At temperatures above 15 degrees the full bottle would tend to explode first.

In actual fact, we are not dealing with full and empty bottles, but rather with bottles filled to leave an airspace (95 percent full), compared with bottles filled as completely as possible (99.5 percent full). Any differences in pressure between almost-full bottles and completely full bottles containing the same quantity of carbon dioxide would be insignificant.

Differential thermal expansion is another, much less common cause of exploding bottles. When a bottle of beer is heated, the beer will expand more rapidly than the glass bottle. Eventually, the bottle or seal will fail. Water is essentially incompressible. Bottles with no deliberate airspace left when filling, as I recommend, will fail from pressures caused by differential thermal expansion before bottles with a conventional one-half to one-inch space.

### Experimental Explosions

Experience with many years of completely filling beer bottles, without any bottle breakage that could be attributed to thermal expansion, suggests that the danger is not great. However, I conducted a small experiment to quantify the problem.

I selected from a brew of well-carbonated brown ale of about 5 percent alcohol by volume the three bottles with the smallest airspace. The beer had been intentionally bottled with no airspace — the small space present was the result of a few

drops of beer knocked out while placing and crimping the cap, and by the additional space created by the slight dome of the cap.

In each bottle the small airspace was completely hidden by the cap. Only when the bottles were turned on their sides could a small bubble of gas be observed. The bottles were standard returnable 12-ounce bottles with crown caps. The beer bottles were placed on their sides in a large pan containing cold water. The pan was placed on very low heat (to minimize differences between the temperature of the water and that of the beer) and the temperature was monitored with a large laboratory-type mercury thermometer.

When the temperature reached 50 degrees C (just over 120 degrees F), after about 90 minutes of heating, all bottles were still intact. At 52 degrees C (about 125 degrees F) the first bottle broke. At 61 degrees C (about 142 degrees F) the bubble in the second bottle (the bubble had been shrinking as the temperature increased) expanded rapidly — there must have been seepage at the cap. I removed

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that bottle and allowed it to cool. (Surprisingly, the beer tasted fine after it was refrigerated. It was still well carbonated.) The third and final bottle broke after 137 minutes of gradual warming at a temperature of 63 degrees C (about 145 degrees F). The bubble had compressed to a width of about 2 millimeters and the cap had a distinct bulge at the time the bottle broke.

I was surprised that the bottles failed over such a wide temperature range. It would have been useful to have more test results; however, I have only so much brown ale I am willing to sacrifice for the good of my fellow brewers. The few remaining bottles of this ale subsequently won a first place in CAMRA Canada's Ottawa Chapter Fall 1988 homebrew contest.

Homebrewers who wish to pasteurize their beer in the bottle (not a good idea) would benefit from an airspace. Most of us store our beer at close to or below bottling temperatures and need not worry about thermal expansion. Temperatures high enough to risk bottle breakage are devastating to beer quality.

If a partially full bottle and a completely full bottle are equally likely to break when stored at reasonable temperatures, why should we care how full they are? Picture two bottles of stout maturing gracefully on your white shag rug. The bottles and their contents are identical except that one bottle is not quite full. Unfortunately, an enthusiastic assistant has primed each bottle with a half ounce of sugar instead of a half teaspoon. Late one night the critical pressure is reached and both bottles break. The completely full bottle fractures with a quiet click and the stout seeps gently into the carpet, its carbon dioxide content dissipating slowly.

The partially full bottle explodes violently, the suddenly freed carbon dioxide gas expands — throwing fragments of glass to the ceiling and spraying stout over your walls. Which would you prefer? Whether or not a bottle breaks is dependent on the internal pressure of the bottle and on any flaws or damage a bottle may have.

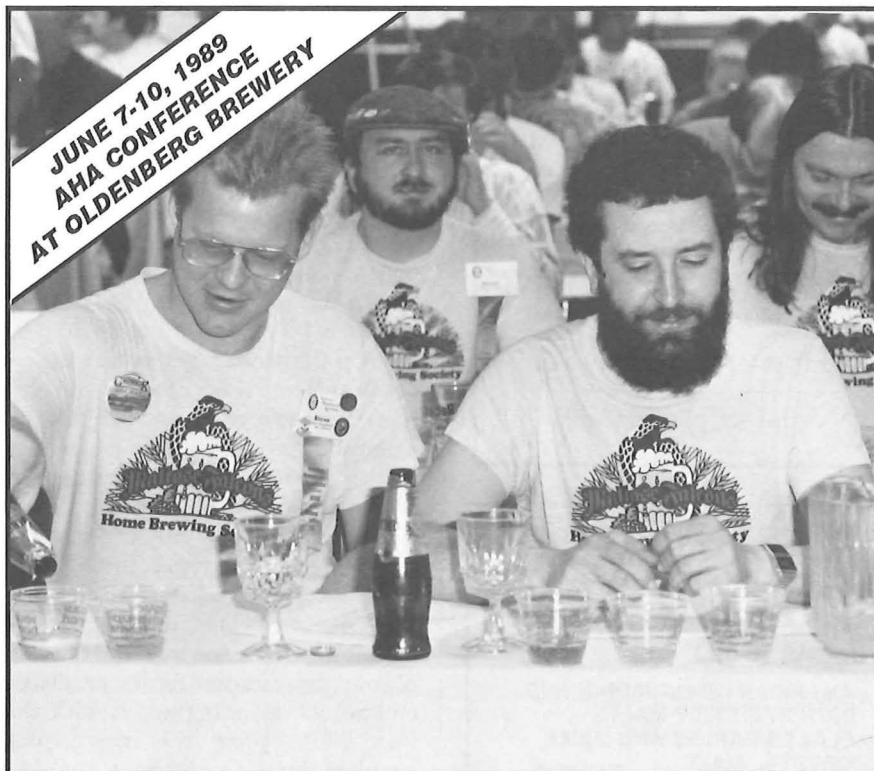
What happens when a bottle breaks is dependent on how large an

airspace has been left. The relief of stresses within the glass contributes only a small part of the energy in a violent bottle explosion. It is the explosive expansion of compressed carbon dioxide gas that propels glass fragments into the environment.

The larger the airspace, the greater the volume of carbon dioxide that is available to throw glass. The CO<sub>2</sub> dissolved in the beer is released slowly over a period of minutes and does not contribute to the danger. Complete filling will not prevent

bottles breaking, but it will discourage them from behaving like hand grenades.

**Eric Knudsen** lives in Perth, Ontario, Canada, and has been brewing since 1973. A long-time member of CAMRA, he has taught beer-making courses for three years. Knudsen is very interested in the application of computers to homebrewing — he believes spreadsheet programs are great for recipe formulation.




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*continued from page 23*

Therefore, a more accurate tool than just a saccharometer may be needed when testing for residual sugar.

One tool that will accurately determine the end of fermentation is the Clinitest™ Residual Sugar Test. With the instructions we adapted for testing wine and beer, you can consistently determine the exact quantity of priming sugar needed to produce a perfect carbonation level.

The customary priming instruction, "add 3/4 cup of corn sugar to five gallons of beer," is based on the following calculations. If you bottle beer with enough fermentable sugar present to constitute three to four points of specific gravity, an acceptable carbonation level will be reached. Dissolving 3/4 cup of corn sugar in five gallons of water (or beer) will add .00312 points of Specific Gravity. Because .003 degrees of specific gravity can also be expressed as (is equivalent to) 3/4 of a percent sugar (.75 percent), a Clinitest™ Kit (which measures the percentage of sugar in solution) can show you how to adjust the amount of priming sugar, depending on the amount of residual sugar not yet fermented in your beer.

For example, a batch of stout is taking its time to finish fermenting, and after three weeks is still showing signs of activity, i.e., bubbling at the neck, blipping in the lock and reading high or above normal for the predicted end point. Running a test with the Clinitest™, using the instructions supplied for wine and beer, the percent of residual sugar is found to be approximately .75. This is the equivalent of 3/4 cup of priming sugar added to five gallons of beer (three points of specific gravity), an acceptable amount for bottling with no additional sugar to still have a normal carbonation level. So this beer could (and probably should) be bottled as is with no additional priming sugar.

In the case of wine, the Clinitest™ can be used when sweetening your wine prior to bottling. Once you have established the level of sweetness desired (normally done by sample tasting), test to see the amount of sugar present in the sample. Because some of these sugar levels are considerably higher than

1 percent, you will probably need to dilute the sample with water prior to the test and multiply the result by the volumes used. Using the formula that .25 percent sugar equals one point of specific gravity (which equals 1/4 cup of corn sugar in five gallons), sweetening can be carried out in increments of a quarter percent sugar until the desired sweetness level is reached.

The entire sugar testing kit sells for \$15.95. The components also are sold separately: 100 tablets for \$14.50, test tube and stand for \$1.50, and .5 ml. pipette for 40 cents.

The Clinitest™ Kit is available through some wine and beer retailers and drugstores. The instructions need to be modified in the following manner before using with beer and wine.

Cut out the color chart labeled "Two-Drop Test" and glue to a piece of cardboard. Replace the numbers under the color bars, starting at the far left and moving to the right as follows: 0 percent, 0.05 percent, 0.1 percent, 0.2 percent, 0.4 percent, 0.6 percent and 1.0 percent. You will need a test tube and a 0.5 ml. pipette with which to carry out the test.

Add 0.5 ml. of beer to the test tube and drop in a Clinitest™ tablet. Do not hold the tube during the reaction because heat is created. At the end of 15 seconds, shake the test tube and compare its color to the adapted color chart. Follow the instructions about carbonation in this article to adjust the priming sugar as needed. You'll be glad you did when your beers come out with ideal carbonation every time.

© 1988, Nancy Vineyard  
Excerpted from "Great Fermentation News" with permission.

In 1976, Nancy Vineyard, then a UC-Berkeley student, took a job as a cellar worker at a local winery. During the two years she worked there she became intrigued by the fermentation process and began making both wine and beer at home. Since 1980 she has managed the Great Fermentations store in Santa Rosa, Calif. Vineyard was the 1983 American Homebrewers Association Homebrewer of the Year.

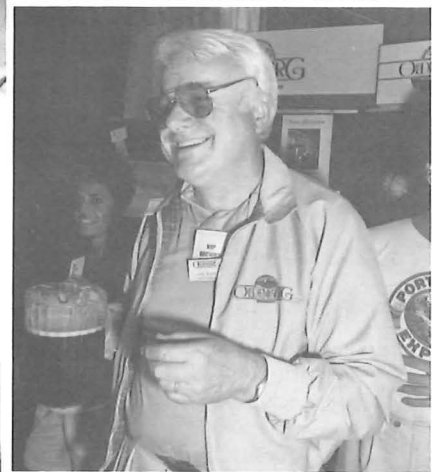


June 7-10, 1989  
AHA CONFERENCE  
AT OLDENBERG BREWERY



# It's A Beer Extravaganza!

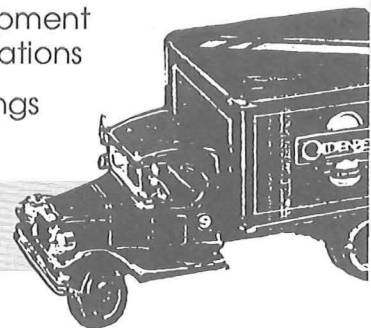
Eleventh Annual AHA National  
Conference on Quality Beer  
and Brewing  
June 7-10, 1989  
at Oldenberg Brewery,  
Ft. Mitchell, Kentucky



You're invited for three full days of beer enjoyment!

- Focused Sessions for Beginning to Advanced Homebrewers
- Old Friends and New Friends
- New Equipment Demonstrations
- Beer tastings

Sponsored by the American Homebrewers Association  
PO Box 287, Boulder, CO 80306, (303) 447-0816



# A Beer Extravaganza: Beer, Brewers &



## WEDNESDAY, JUNE 7

### Registration

**Brewery Tours.** Hudepohl-Schoenling Brewery, Cincinnati, and Oldenberg Brewery.

**AHA Conference Kickoff Beer Reception.** Dart tournament and special beer zany AHA conference slide show by Maltose Falconer Bruce Prochal of North Hollywood, Calif.

### National Competition Judging

## Flying to Cincinnati? Have we got a deal!



The AHA has selected United Airlines as the Official Airline for this year's conference. This means special savings for you.

United Airlines is pleased to offer those attending the conference a 40 percent discount off unrestricted coach fares or 5 percent discount off lowest applicable fares, including first class. This special offer, available only to those attending this meeting, applies to travel on domestic segments of all United Airlines and United Express flights. These fares are available through United's Meeting Plus Desk with all fare rules applying.

United Meeting Plus Specialists are on duty seven days a week, 8 a.m. to 11 p.m. EST to make your reservations or you may make reservations through your own travel agent. You must refer to account number B416 KSB. Call 1-800-521-4041 in the U.S. or Canada. Call today as seating may be limited.

## THURSDAY, JUNE 8

### MORNING PRESENTATIONS

**Welcome and introduction.** Charlie Papazian, Boulder, Colo., AHA President and author of *The Complete Joy of Home Brewing*.

**What Makes an Ale an Ale.** Greg Noonan, Burlington, Vt., Brewmaster and owner of Vermont Brewery and Pub of Burlington, and author of *Brewing Lager Beer*.

**Getting It on with Malt Extracts:** Making winners, Fred Eckhardt, Portland, Ore., author of *The Essentials of Beer Style*.

**Clear Beer Please!** What causes cloudy and hazy beer and how to prevent it. Dr. Terry Foster, Milford, Conn., chemist, homebrewer and beer journalist.

**Microbiology for Homebrewers.** An exposé of yeasts and beasts relevant to amateur brewers, Paul Farnsworth, San Antonio, Texas, homebrewer and professor of fermentation technology, University of Texas.

**A Midafternoon's Dream.** Homebrewer's Lunch. Profiles of courage, truth and homebrewing the American way. Meet homebrewers featured in the 1988 Special issue of *zymurgy*. Kathy Ireland, model and actress, Santa Barbara, Calif.; Eric Furry, bookstore owner, Bangor, Maine; Michael Bosold, photographer, Victor, Mont.; Mark Hillestad, painting contractor, Santa Rosa, Calif.; and Rodney Morris, microbiologist, College Station, Texas.

### AFTERNOON PRESENTATIONS

**Home Sweet Homebrewery.** A 700-square-foot display of gadgets and technology, Cy Martin, Euless, Texas, Best of Show, 1988 Dixie Cup Competition.

**The Beer Essentials.** Practical and down-to-earth tips for every homebrewer, Byron Burch, Santa Rosa, Calif., author of *Brewing Quality Beers*.

**Trends in Fermentation and Lagering.** Dave Miller, St. Louis, Mo., author of *The Complete Handbook of Home Brewing*.

### Best of Show/ Homebrewer of the Year Judging.

### EVENING ACTIVITIES

**Homebrew Club Night.** 21 Bottle Salute, barbecue dinner and First Epicurian Delight Sausage Open. Beer and steer, porter and pork, sausage and stout, fowl and firkins. A special barbecue complemented by homebrew, homebrew and more homebrew brewed by clubs from around the country. Club displays and an opportunity for clubs to swap homebreweriana and exchange ideas.



# Brewing

## FRIDAY, JUNE 9

### MORNING PRESENTATIONS

**AHA Forum.** A report on AHA activities and discussion of future activities and programs, Charlie Papazian, AHA President.

**Microbreweries and Brewpubs.** The ecstatic homebrewer and state of the industry, Jeff Mendel, Boulder, Colo., Assistant Director, Institute for Brewing Studies.

**Essentials of Beer Formulation.** For all brewers, Michael Lewis, Davis, Calif., professor of brewing science, University of California.

Other speaker to be announced.

**Lunch Break.** On your own. Choose from a fine selection of Oldenberg restaurants.

### AFTERNOON PRESENTATIONS

**Simplified Quality Control for the Homebrewer.** Ten practical and process-oriented tests any homebrewer can do. George Fix, Arlington, Texas, member of Master Brewers Association of America.

**A Homebrewer's Dream Come True.** A weekend 70-barrel-a-year commercial microbrewery. Russel Klisch, Milwaukee, Wis., Brewmaster and president, Lakefront Brewery

Other speaker to be announced.

Two-and-a-half hours of luxurious FREE TIME.

### EVENING ACTIVITIES

**Gala Awards Banquet in Oldenberg's Great Hall.** Good food, good beer, good song, ceremonies, entertainment, the 1989 Homebrewer of the Year... and a few surprises.



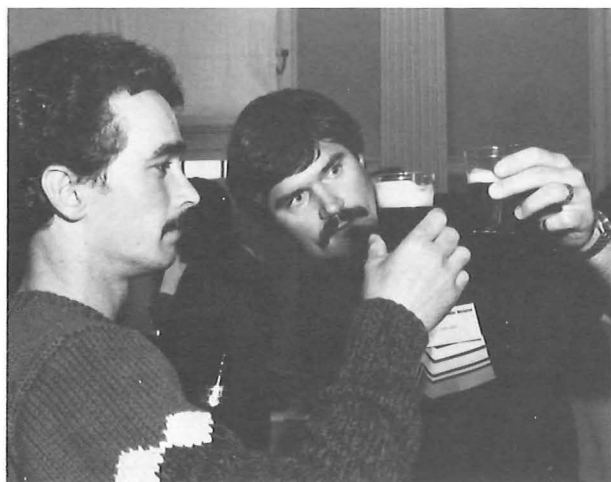
## SATURDAY, JUNE 10

### MORNING ACTIVITIES

**Brewing with Hans Bilger,** Brewmaster at the Oldenberg Brewery: a rare opportunity for first-hand experience in the brewery. Be there from mash-in to yeast pitching of a 25-barrel batch of beer specially made during the conference.

### National Beer Judge Certification Test.

**Michael Jackson Luncheon.** One of the most popular eating experiences of the year. Selected beers and food prepared with beer and, of course, Michael's own thoughts on the subject before us.



### AFTERNOON ACTIVITIES

**Beer and Brewing Exposition.** Displays, exhibits, videos and demonstrations all about beer and brewing. Exhibitors will include shops, manufacturers, suppliers, clubs, breweries, individual homebrewers and much more.

**Don't be left out!** Individuals, companies and clubs interested in participating in this year's Exposition should contact Linda Starck, AHA, PO Box 287, Boulder, CO 80306, 303 447-0816.

### EVENING ACTIVITIES

**Dinner.** On your own. Visit any of the fine eateries at the Drawbridge Inn or visit downtown Cincinnati.

**An International Beer Extravaganza Tasting,** Kentucky's first ever collection of domestic and imported beers. An evening of taste delight, micro to major, England to Thailand. All yours for the tasting.

# Come join us! You won't believe it!

# 1989 American Homebrewers Association Conference on Quality Beer and Brewing

## Conference Registration Form

### Early Registration Saves \$30.

Mail your registration form by April 28, 1989, and save \$30. Plus, if you mail early, you'll bypass registration lines. Please note: The Drawbridge Inn has a limited number of rooms at our special conference rates. Register early directly with the hotel.

### PERSONAL INFORMATION

(Please photocopy and send this form for each person attending). PRINT legibly so your name tag will be correct.

Name \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State/Province \_\_\_\_\_  
Zip/Postal Code \_\_\_\_\_ Country \_\_\_\_\_  
Telephone \_\_\_\_\_

### CONFERENCE INFORMATION

Full registration includes all sessions, meals and activities listed:

- June 7 Reception
- June 8 Presentations, lunch, club night, dinner
- June 9 Presentations, awards banquet
- June 10 Brewing with Hans at Oldenberg, Michael Jackson Luncheon, Beer Exposition

### SECTION 1: REGISTRATION FEES

Register by April 28, 1989, and save \$30. Members of the American Homebrewers Association or the Institute for Brewing Studies save an additional \$50.

	Fee	Total
<b>AHA and Institute Members</b>		
<b>Full Conference:</b>	\$240	_____
Deduct \$30 if postmarked by April 28, 1989	-\$30	_____
<b>Non-Members Full Conference:</b>	\$290	_____
Deduct \$30 if postmarked by April 28, 1989	-\$30	_____

**Saturday Only** (no early discounts apply) \$79 \_\_\_\_\_

#### SUBTOTAL FOR SECTION 1

### SECTION 2: MEMBERSHIP

As a member of the American Homebrewers Association you'll save an additional \$50 on registration — plus receive all benefits of membership.

Membership dues are \$21 (foreign \$26) \_\_\_\_\_

#### SUBTOTAL FOR SECTION 2

### SECTION 3: SPECIAL EVENTS AND OFFERS

National Beer Judge Certification Exam \$35 \_\_\_\_\_  
International Beer Tasting/June 10 \_\_\_\_\_ x \$11 \_\_\_\_\_  
1989 Conference Transcripts Pre-publication Price (available November 1989) \_\_\_\_\_  
Members — \$15 Non-members — \$18 \_\_\_\_\_

**GRAND TOTAL**

Section 1	_____
Section 2	_____
Section 3	_____

All funds in US dollars Total amount due \_\_\_\_\_

### METHOD OF PAYMENT

☐ check/money order ☐ MasterCard ☐ VISA

Card No. \_\_\_\_\_ Exp. \_\_\_\_\_

Name on card \_\_\_\_\_

Call (303) 447-0816 for information or credit card registration. Mail form and payment to AHA, PO Box 287, Boulder, CO 80306 USA.

## Hotel Registration Form

### DRAWBRIDGE INN

### AT THE OLDENBERG BREWERY

Site of the 1989 Beer Conference, Homebrew Exposition and International Tasting, the Drawbridge Inn is a full-service hotel featuring indoor and outdoor swimming pools, health club, jogging paths, a brewery, five restaurants, the world's largest breweriana collection, beer hall, tennis and six bars. The hotel is only 10 minutes from Cincinnati International Airport and downtown Cincinnati, Ohio. A free ride from the airport is available by simply using the complimentary phones located near the baggage carousels. Driving? The Drawbridge Inn is near the junction of I-75 and Buttermilk Pike, in Fort Mitchell, Ky.

Make your reservations early! Phone the hotel directly toll-free at 1-800-352-9866 or in Kentucky 1-800-354-9793 or mail form provided below to Drawbridge Inn, I-75 at Buttermilk Pike, Fort Mitchell KY 41017 USA.

### HOTEL REGISTRATION

Make reservations directly with the Drawbridge Inn and mention the American Homebrewers Association for special conference rates. To assure these rates make reservations by May 1, 1989.

#### Circle one of the following rates:

Room type	Single	Double	Triple
Main Building	\$55	\$65	\$75
Garrison Building	\$40	\$50	\$60

Rates subject to applicable taxes.

#### Please print legibly.

Name \_\_\_\_\_

Company (if applicable) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State/Province \_\_\_\_\_

Zip/Postal Code \_\_\_\_\_ Country \_\_\_\_\_

Telephone \_\_\_\_\_

Do you wish confirmation? \_\_\_\_\_

Arrival \_\_\_\_\_ Departure \_\_\_\_\_

Additional persons sharing room: \_\_\_\_\_

☐ one bed ☐ two beds

Deposit of first night's room rate or guarantee with credit card is required for arrival after 6 p.m.

First night's deposit enclosed: ☐ yes ☐ no

All major credit cards accepted

Credit Card No. \_\_\_\_\_

Credit Card type \_\_\_\_\_ exp. date \_\_\_\_\_

Name on card \_\_\_\_\_

Signature \_\_\_\_\_

Mail hotel form to Drawbridge Inn, I-75 at Buttermilk Pike, Ft. Mitchell, KY 41017. Call 1-800-352-9866 or in Ky. 1-800-354-9793.

A \$40 Conference Registration cancellation fee for each person will be assessed if cancellations are made on or before May 19. There will be no refunds for cancellations made after May 19.

**Note:** The AHA CANNOT accept registration for the Drawbridge Inn. Please reserve your space early to assure a room at the Drawbridge Inn. Call the hotel directly or send the form on this page.



# The AHA Eleventh Annual National Homebrew and Mead Competition

## 1989 Rules and Regulations

### A. ELIGIBILITY AND CATEGORIES

1. Eligibility: Anyone may enter, including American Homebrewers Association members and non-members. Contestants will be considered as an individual entrant on the basis of person's name appearing on registration form. Applicable entry fees and entry limitations shall apply.
2. Homebrewer may not use homebrewing facilities other than their own, unless brewed with the help of the owner of other homebrewing facilities, furthermore in this case, the beer must be entered under the name of all brewers who helped. Beers brewed in commercially licensed facilities, whether for commercial research or production, or for any other purpose, are ineligible.
3. Contestants may not submit more than one entry in any one beer subcategory.
4. Beer and mead entries will be judged in classes and subcategories listed in Section F.
5. Two winners (one entry from each winner) from each AHA Sanctioned Competition staged between July 1, 1988, and April 1, 1989, will be eligible for a first round bye and automatically qualify for second round judging. Eligibility will be determined by the directors of each AHA Sanctioned Competition. Those qualifying will be awarded certificates of entry along with details of how, when, what and where to enter.
6. Entries must be referred to by Class NUMBER and Subcategory LETTER. Any homebrew that is made without the use of malt extract, i.e., using exclusively all grains, MUST be indicated as such on registration form.

### B. HOW TO ENTER, WHAT TO ENTER

1. Entry Fees: American Homebrewers Association Members: \$6.50 for each entry. Non-members: \$8.50 for each entry. Non-members may enjoy membership status in this competition by enclosing \$21 (annual membership fee) with entry fees, thereby becoming a member of the AHA. All checks should be made payable to the American Homebrewers Association.
2. Entry Requirements: Bottles must be clean and free of any labels or identifying marks. Attach to each bottle the AHA registration form, or facsimile, with a rubber band. The use of tape or glue to attach forms is not acceptable. For the preliminary round, homebrew competitors must enter one 10- to 14-ounce green or brown glass bottles for each subcategory entered. NOTE: Grolsch-type swing tops are not acceptable. Soft drink or other printed crowned caps are acceptable, however, they need to be blacked-out with a BLACK marking pen to assure anonymity in all judging situations.
3. Recipe must be submitted with entry. Entrants agree to allow (at no cost) publication of recipe by the American Homebrewers Association in any publication. Entrant will receive all due credit.
4. All entry fees, names of competitor, address, phone number, Class and Subcategory entered and recipes must accompany entries when submitted. No entries will be returned whether received late or otherwise. All entries become property of AHA.
5. Use official registration and recipe forms (or copies) when possible.
6. Beers will be disqualified for entry requirement infractions. These entries may still be judged but will be ineligible for awards or prizes.
7. IMPORTANT NOTE: If your beer is judged as qualified to move on to the Final Judging you will be notified by first class mail during the week of May 15. You will be requested and instructed on how, when, and where to send two additional bottles for judging, to be received in Kentucky no later than June 2. NOTE: Three bottles of beer for final judging will be requested for all Pale Ale subcategories.

### C. WHERE TO ENTER, WHEN TO ENTER

1. Ship your entries as early as possible. They will be refrigerated within 24 hours of receiving, thus helping to preserve the quality that we receive them in. Sorry we cannot make any exceptions.
2. Entries accompanied with fees and registration information may be dropped off at the following location by 5 p.m., Tuesday, April 25, 1989:  
The American Homebrewers Association  
734 Pearl St.  
Boulder, CO 80302  
(303) 447-0816

#### OUT-OF-STATE ENTRIES

It is legal to ship your entries via UPS, bus carriers or air freight. The Alcohol, Tobacco and Firearms Division of the Internal Revenue Service says it's legal—we asked. Usually you will be asked the contents of the package and your reply should be: "Bottles, but they are double-boxed and padded well." Greyhound and Trailways bus systems offer "Package Express Service" to Denver. Send by BUS CARRIER to:

zymurgy, Department C  
734 Pearl St.  
Boulder, CO 80302 USA

If you choose to send entries by ALTERNATIVE CARRIER, like UPS, have them delivered to:  
zymurgy Webster  
c/o Boulder Fruit Express  
5320 Arapahoe Ave.  
Boulder, CO 80303 USA

**PACK YOUR ENTRIES WELL!** There are quite a few broken bottles every year. Line the inside of your carton with a plastic trash bag. Partition and pack each bottle with adequate packaging material. Clearly state "Glass—Fragile. This Side Up" on the package. Your package of NON-PERISHABLE FOOD should weigh less than 40 pounds. It is not necessary to state specific contents of your "care package" of non-perishable food. **SEND ENTRIES AS SOON AS POSSIBLE. THEY WILL ALL BE STORED IN A WALK-IN COOLER UPON RECEIVING.** Entries must be received by 5 p.m. Tuesday, April 25, 1989.  
**NO LATE ENTRIES WILL BE ACCEPTED**

### D. JUDGING

1. Judging will be done in closed session. In the first round, each judge will score 5 to 10 entries in one Class or Subcategory, selecting the best three. The second round consists of all those beers selected in the first round. In this round a group of judges scores each beer in one class. The winner in each class is then judged by a group of the most experienced judges for the best of show. Some entries eliminated in the first round may be judged by only one judge. Every attempt will be made to chill all entries appropriately. Decisions of the judges are final. Winners will be announced at the AHA Conference Banquet, Friday, June 9. All winners will be notified. Every reasonable effort will be made to return score sheets and judges' comments to all entrants.
2. Preliminary (first round) judging will be conducted April 25 to May 15 in Boulder, Colorado. All entrants qualifying for second round judging will be notified by first class mail during the week of May 15 and will be requested and instructed on how, what, when and where to send two additional bottles for judging.

Final (second round) judging and Best of Show will be conducted June 7 and 8 during the American Homebrewers 11th Annual National Conference on Beer and Brewing at the Oldenberg Brewery in Fort Mitchell, Kentucky.

### E. AWARDS AND PRIZES

First, second and third-place prizes will be awarded in each Class. (NOTE: Lager Fruit Beers, Lager Herb Beers, Lager Porters and Lager Specialty Beers will be combined and judged with their respective Ale Classes.) First place in each Class receives an award of a hand-cut and hand-engraved crystal stein, and the winner's name is engraved on the accompanying trophy, courtesy of the Class sponsor. In addition, there will be first, second and third-place ribbons awarded in the three Pale Ale Class Subcategories.

First Place winners of each lager and ale class will compete in a best of show judging, the winner will be awarded "Homebrewer of the Year." The Homebrewer of the Year will be awarded an expense-paid trip to Boulder, Colorado, and an opportunity to commercially brew the award-winning recipe at the Boulder Brewing Company.

First Place winners of each mead class will compete in a best mead of show judging, the winner will be awarded "Meadmaker of the Year."

There will be a homebrew club high-point award, scored as follows: first place beers—3 points, second place—2 points, third place—1 point. For your club to receive credit you must have the club listed on the entry form.

Brewmaster Certificates will be awarded to any brewer whose achievements are outstanding on the basis of judges' final scoring and the following standards:

Brewmaster's Gold Certificate: Scores of 40-50 (excellent, the finest)  
Brewmaster's Silver Certificate: Scores of 30-39 (very good)  
Brewmaster's Bronze Certificate: Scores of 25-29 (good)

### F. CATEGORIES

There are 22 Classes of ale and lager and two classes of mead to be judged. Some have Subcategories using small-letter designations. If a beer is entered, for example, as "14c Doppelbock" it will be judged as a doppelbock, but against the other bock beers. If a beer may be more appropriately entered in another Subcategory it will be judged according to how the entrant Subcategorized it, not what the judges think it should have been.

Homebrewer of the Year (Best of Show) Award sponsored by Munton and Fison, Stowmarket, England. Homebrewer of the Year prize to brew at the Boulder Brewing Company is given by the Boulder Brewing Company, Boulder, Colorado.

Club High-point Trophy sponsored by House-Beer, Dallas, Texas.

Meadmaker of the Year sponsored by the Home Wine and Beer Trade Association.

## ALES

Ales are distinguished by the use of top-fermenting yeasts. These yeast strains perform at warmer temperatures, the ferments are faster and fermentation by-products are generally more evident. Ales tend to have a very pronounced palate, where esters, fruitiness, or clove-like qualities play a part.

**Class 1: ALT** — Altbier ("old beer") is an ale style originating in the Düsseldorf and Münster areas of West Germany. The name seemingly is a reminder of the good old days before the development of lager yeasts. Class award sponsored by Great Fermentations of Santa Rosa, California.

**Subcategory 1a: GERMAN ALTBIER** — Copper to reddish brown in color, aggressively hopped with a fairly malty body creating a more bitter, aromatic counterpart to their lager cousins.

**Subcategory 1b: KÖLSCH** — Cologne/Bonn's distinctive style. Pale gold in color, with a complex hop character and a slightly dry, winy palate. Alcohol 4.3 to 5 percent by volume.

**Class 2: BARLEY WINE** — An English term for an extra-strong ale (implied to be as potent as wine). Class award sponsored by Dover Vineyards, Westlake, Ohio.

**Subcategory 2a: BARLEY WINE ALE** — 6 to 13 percent alcohol by volume. Copper, tawny to dark brown in color, these ales usually have a high residual malty sweetness full of esters and fruitiness, counterbalanced by medium to assertive hop bitterness and alcohol.

**Class 3: BELGIUM-STYLE SPECIALTY BEERS** — There are hundreds of styles of Belgian beers. The Subcategories represent a few that are available in the United States and Canada. Class award sponsored by Manneken-Brussel Imports, Austin, Texas.

**Subcategory 3a: FLANDERS BROWN ALES** — A style of ale from Belgium made in the traditional way with barley malts but with a slightly sour, dry, lactic character. This

quality combines with some of the fruity, spicy complexity obtained through unique yeast strains and warm fermentations to produce some unparalleled brews.

**Subcategory 3b: TRAPPIST ALES** — There are five Trappist abbeys in Belgium and one in The Netherlands that have established a distinct, strong style of bottle-conditioned ales. Unique yeast strains in combination with a brewing process that maximizes the development of esters and other fermentation by-products create fruity, sometimes clovelike beers.

HOUSE BREW — 4.0 to 5.7 percent by volume  
DOUBLE MALT — 6.0 to 6.5 percent by volume  
TRIPLE MALT — 6.5 to 12.0 percent by volume

**Subcategory 3c: SAISON** — A Belgian summer seasonal beer sharply refreshing and faintly sour.

**Subcategory 3d: LAMBIC** — A brewing tradition from the Senne Valley west of Brussels, Belgium. These are wheat beers with a strong pervading lactic character spontaneously fermented with wild airborne yeasts. 4.5 percent by volume.

FARO — A sweetened, sometimes diluted lambic beer, usually drunk young. 4.5 to 5.5 percent by volume.

GUEUZE — Blending a fresh lambic with an old, creating a second fermentation, produces a gueuze. 5.5 percent by volume.

FRAMBOISE — Blending raspberries with an old lambic, creating a second fermentation, produces a framboise. 6.0 percent by volume.

KRIEK — Blending cherries with an old lambic, creating a second fermentation, produces a kriek. 6.0 percent by volume.

**Class 4: BROWN ALES** — There are a variety of brown ales included in this English style. Class award sponsored by Premier Malt Products, Grosse Pointe, Michigan.

**Subcategory 4a: BROWN ALES** — Southern England is typified by a sweet dark brown brew, 3 to 3.5 percent by volume. As one moves north the style becomes a drier reddish-brown brew, 4.4 to 5 percent by volume.

**Subcategory 4b: ENGLISH MILD** — Mild is a northern English brown ale of low alcoholic

strength, suitable to consume in large quantities. 2.5 to 3.5 percent by volume.

**Subcategory 4c: TEXAS BROWN** — A style of brown ale emerging from the flavor preferences of many American homebrewers. It has a medium to high hopping rate, evidenced in bitterness, flavor and aroma. As bitterness increases the proportion of malt sweetness also increases for balance. Usually 3 to 5 percent alcohol by volume.

**Class 5: CREAM ALE** Class award sponsored by The Wine Works, Denver, Colorado.

**Subcategory 5a: CREAM ALE** — An American term for a mild, pale, light-bodied ale, around 4.75 percent by volume. Often these are made by blending an ale and a lager.

**Class 6: FRUIT BEER** Class award sponsored by The Purple Foot, Milwaukee, Wisconsin.

**Subcategory 6a: FRUIT ALE** — Any ale made using fruit as an adjunct. The fruit may be added to the primary fermentation

**Subcategory 6b: FRUIT LAGER** — A lager made using fruit as an adjunct. The fruit may be added to the primary fermentation or later to produce a separate second fermentation. The result should have the particular fruit qualities distinct, yet harmonious with the total flavor profile.

**Class 7: HERB BEER** Class award sponsored by The Homebrewery, Fontana, California.

**Subcategory 7a: HERB ALE** — Any ale using herbs or spices other than hops to create distinct qualities might be classified as an herb ale.

**Subcategory 7b: HERB LAGER** — Any lager using herbs or spices other than hops to create distinct qualities might be classified as an herb lager.

**Class 8: PALE ALE** — An English term for a variety of ales that are "pale" relative to the English brown and black ales. Class award sponsored by Edme Ltd., Mistley, Manningtree, England.

**Subcategory 8a: CLASSIC PALE ALE** — Brewed from original specific gravities of 1.043 - 1.053, these ales are characteristically dry and hoppy. Classically brewed with hard water containing minerals such as calcium sulfate and some carbonates.

## OFFICIAL 1989 COMPETITION RECIPE FORM

Entrants must complete all blanks and enclose one copy of recipe with entry. (Please print.)

Name of Brewer \_\_\_\_\_ Phone \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_

State/Province \_\_\_\_\_ Zip/Postal Code \_\_\_\_\_ Country \_\_\_\_\_

Name of Beer \_\_\_\_\_ Category of Beer \_\_\_\_\_

### INGREDIENTS

Number of gallons brewed for this recipe: \_\_\_\_\_

BRAND NAMES and amounts (pounds and ounces) of malt extract or kit used:

Type and amount (pounds and ounces) of any grains used:

Variety and amount (ounces) of hops and how used:

Boiling hops (time, weight):

Finishing hops (time, weight):

Type and amount of water treatments (minerals and salts) used (if any):

Type, brand and amount of yeast used:

Type, brand and amount of yeast nutrients used (if any):

Type, amount, and how other adjuncts were used (fruit, herbs, maltodextrin, etc.):

Carbonation method (procedure and amount):

### PROCEDURES AND ADDITIONAL INFORMATION

Original specific gravity \_\_\_\_\_ Terminal specific gravity \_\_\_\_\_

Duration of fermentation \_\_\_\_\_ (weeks) Boiling Time \_\_\_\_\_

Was a plastic or glass fermenter used? \_\_\_\_\_ Was secondary fermentation used? \_\_\_\_\_ How long? \_\_\_\_\_

Approximate temperature of fermentation \_\_\_\_\_ Bottling date \_\_\_\_\_

How long have you been brewing?: \_\_\_\_\_ (years)

Please elaborate (use a separate piece of paper) on the details of your brewing procedures (and how you used the ingredients listed above) that you feel are important to know. If you have entered an all-grain beer, please indicate time and temperature of mashing and sparging techniques:



**Subcategory 8b: INDIA PALE ALE** — Originally brewed to travel well by shipper vast distances, IPA has a healthy alcoholic content (5.0 percent by volume) and a high hopping rate. The bouquet of this copper-colored classic is a full, flowery hop experience. The use of water high in mineral salts in conjunction with the hops creates a dry brew with an assertive hop bitterness.

**Subcategory 8c: BRITISH BITTER** — The national drink of England! Generally a cask-conditioned, gold- to copper-colored, draft beer served at room or cellar temperature with a modest carbonation. Bitter may be highly or lightly hopped, express hop bouquet or not.

**NORTHERN** — The northern bitters tend to be maltier, stronger and less carbonated than their southern counterparts.

BASIC — 3.75 to 4.0 percent by volume  
SPECIAL — 4.0 to 4.75 percent by volume  
EXTRA SPECIAL — About 5.5 percent by volume

**SOUTHERN** — The southern bitters are hoppier and more aggressively carbonated than their northern cousins.

BASIC — 3.75 to 4.0 percent by volume  
SPECIAL — 4.0 to 4.75 percent by volume  
EXTRA SPECIAL — About 5.5 percent by volume

**Class 9: PORTER** — A dark English medium-bodied ale style originating in London. Class award sponsored by The Brass Corkscrew, Seattle, Washington.

**Subcategory 9a: PORTER** — The darkness of porter comes predominately from the use of black malt rather than roasted barley, as in stouts. A high hopping rate effectively lightens the mouth feel and gives a clean, quick finish to what otherwise would come through as a heavier beer. Varying in style from bitter to mild and sweet, dark brown in color, London-style porter ranges in alcohol from 5 to 7.5 percent by volume.

**Class 10: SCOTCH ALE** — A style originating in Scotland, and a term now used also in Belgium and France. Class award sponsored by Wine & Hop Shop, Denver, Colorado.

**Subcategory 10a: SCOTCH ALE** — Generally a strong, dark, malty brew with a residual sweetness and a low hopping rate.

LIGHT — 3.0 percent by volume  
HEAVY — 4.0 percent by volume  
EXPORT — 4.5 percent by volume  
STRONG — 7 to 10 percent by volume

**Class 11: SPECIALTY BEER** Class award sponsored by Buffalo Bill's Brewpub, Hayward, California.

**Subcategory 11a: SPECIALTY ALES** — Any ale brewed using fermentable ingredients other than or in addition to malted barley as a unique contribution to the overall character of the beer. Examples include the use of honey and maple syrup. Examples do not include fruit or herbs, though they can be used to add to the character of other uniquely fermentable ingredients.

**Subcategory 11b: SPECIALTY LAGERS** — Same as 11a but brewed with a lager yeast.

**Class 12: STOUT** — The heavy use of highly roasted malts is the fundamental character of this extra-dark to black family of brews. Class award sponsored by Great Fermentations of Marin, California.

**Subcategory 12a: DRY STOUT** — Heavy hopping and the use of roasted, unmalted barley create a clean, bitter, roasted coffee-like character with little hop flavor or bouquet. This is the Irish stout style, classically typified by Guinness. 3.5 to 8.0 percent by volume.

**Subcategory 12b: SWEET STOUT** — The sweet or milk stout is the English style, sweetened with sucrose and given more body with "milk" or lactose sugar just before bottling. Pasteurization stops any further fermentation resulting in a very sweet black ale. 3.5 to 7.0 percent by volume.

**Subcategory 12c: IMPERIAL STOUT** — A strong dark copper-colored to black stout originally brewed as a winter warmer for shipment to Czarist Russia, Imperial Stout is an extremely rich beer with a strong bouquet, and barley taste with fruity characteristics. 7.0 to 10.5 percent by volume.

**Class 13: WHEAT BEER GERMAN STYLE** — Wheat beers are top-fermented and only very lightly hopped. Their fruity palate also is very malty, yet remains sharply refreshing, often with a taste hinting of cloves. Class award sponsored by National Association of Wheat Growers, Washington, D.C.

**Subcategory 13a: BERLINER WEISSE** — The light-bodied, pale, north German style of wheat beer possessing a sharp, lactic sourness and acidity, high carbonation and low alcohol.

**Subcategory 13b: WEIZEN** — The southern German style of wheat beer has at least 50 percent wheat malt. The yeasts used produce a tart, spicy palate distinct from their lactic cousins. 5.0 percent by volume.

**Subcategory 13c: DUNKEL (dark) WEIZEN** — These are dark Weizen beers with substantial malty bodies and fruity palates. They tend to be fairly high in alcoholic content, and are sometimes referred to as Weizenbocks (See Bock category). 5.0 to 6.5 percent by volume.

## LAGERS

Lagers are produced with bottom-fermenting yeasts at colder fermentation temperatures than ales. This cooler environment inhibits the natural production of esters and other fermentation byproducts, creating a cleaner tasting, more stable product.

**Class 14: BOCK** — Originating in Germany, this style of beer is generally a strong, malty beer with an adequate but not assertive hop bitterness. Class award sponsored by Yakima Valley Hop Growers, Yakima, Washington.

**Subcategory 14a: TRADITIONAL GERMAN BOCK** — A copper to dark brown lager, malty

and adequately hopped having at least 6.25 percent alcohol by volume.

**Subcategory 14b: HELLES (light) BOCK** — Hell is the German word for light. Although bock beers are generally thought of as tawny or dark brown, they may be golden in color such as a Maibock, brewed in Germany to celebrate spring.

**Subcategory 14c: DOPPELBOCK** — German for double, doppelbocks should have an alcoholic content of at least 7.5 percent by volume. Traditionally they may be identified by their names ending in "ator."

**Subcategory 14d: EISBOCK** — An extra-strong doppelbock is created by freezing the brew and removing some of the water, which freezes first. 13.0 percent by volume.

**Subcategory 14e: WEIZENBOCK** — see "Dunkel (dark) Weizen" in the Wheat Beer German Style section.

**Class 15: CONTINENTAL DARK** — Primarily a product of a German brewing tradition. Class award sponsored by Crosby & Baker, Westport, Massachusetts.

**Subcategory 15a: CONTINENTAL DARK** — These dark lagers have less sweetness, more hops and carbonation than their brown ale counterparts. They are characterized by a clean, subtle, crisp delicateness that can only be obtained by a significant period of cold storage. 4.0 to 4.8 percent by volume.

**Class 16: EXPORT** — A German style of pale lager. Class award sponsored by DeFalco's Wine & House Beer, Dallas, Texas.

**Subcategory 16a: EXPORT** — A "Dortmund-type" brew, a relatively strong, pale, German, medium-bodied lager, with a slight sweet character. 5.25 to 5.5 percent by volume.

**FRUIT BEER** — see Class 6

**HERB BEER** — see Class 7

**Class 17: MUNICH** — Brewed in many parts of the world, this malt-accented brew is generally considered a dark brown lager with a relatively low residual sweetness. Class award sponsored by Wines Inc., Akron, Ohio.

**Subcategory 17a: MUNICH HELLES (light)** — Sweeter than Export, this is the light Munich style, 3.7 percent by volume.

**Subcategory 17b: MUNICH DUNKEL (dark)** — Munich is usually only designated as "dunkel" (dark) to distinguish it from the German Münchner helles. 5.0 percent by volume.

**Class 18: PILSENER** — Originally brewed in Pilsen, Czechoslovakia, Pilsener beer is probably the most copied style in the world. The best imitations have a very light character, delicately hopped, with a bitterness expressing itself not aggressively but enough for a clean, dry finish. Class award sponsored by California Concentrates, Acampo, California.

**Subcategory 18a: DIET/LITE PILSENER** — Essentially a watered-down Pilsener.

**Subcategory 18b: AMERICAN PILSENER** — The typical use of adjuncts, such as corn and rice, in combination with a clean fermentation contributes to an uncomplicated crisp brew with a universal lightness of body and flavor. American Pilseners are aggressively carbonated, but not overcarbonated. 4.0 to 4.8 percent by volume.

**Subcategory 18c: CONTINENTAL PILSENER** — The European copy of the original, quite true to the style, a little more of everything than the American Pilsener. 5.0 percent by volume.

**PORTER (LAGER)** — see Class 9

**Class 19: RAUCH** Class award sponsored by Jim's Home Brew Supply, Spokane, Washington

**Subcategory 19a: GERMAN RAUCHBIER (smoked)** — Literally "smoked" beer, rauchbier is made through a number of different processes. Usually the malts are lightly roasted in a smoky atmosphere, later imparting the smoke flavor to the beer. Around 5.0 percent by volume.

**Class 20: STEAM** Class award sponsored by Anchor Brewing Co., San Francisco, California.

**Subcategory 20a: AMERICAN STEAM BEER** — An amber lager beer brewed at ale temperatures, and really the only beer style indigenous to America. The warm fermentation creates some ale character. Anchor, the sole survivor, has a substantial body and a strong hop character. NOTE: The Anchor Brewing Company, San Francisco, uses the name "Steam Beer" as a trademarked name. No brewery may use this term for commercial reasons.

**Class 21: VIENNA** — Vienna is a style that includes the Märzen and the Oktoberfest beers. Class award sponsored by F.H. Steinbart, Portland, Oregon.

**Subcategory 21a: VIENNA LAGER** — Amber to copper colored, usually brewed with a respectable alcohol content, Vienna style characteristically has a rich, toasted malt aroma and smooth malt flavor, counterbalanced with a clean bitterness of German hops. 5.0 to 6.0 percent by volume.

## MEAD

Meadmaker of the Year sponsored by Home Wine and Beer Trade Association.

**Class 22: TRADITIONAL MEAD** — Honey and water fermented with yeast having no types of flavorings. Sweet, medium or dry will be judged on their own merits. At least 8.0 percent alcohol by volume. Class award sponsored by Havill's Mazer Mead, Rangiora, New Zealand.

**Subcategory 22a: SPARKLING TRADITIONAL MEAD** — carbonated Traditional Mead

**Subcategory 22b: STILL TRADITIONAL MEAD** — non-carbonated Traditional Mead

**CLASS 23: MELOMEL, PYMENT, CYSER, METHEGHLINS** — Honey and water fermented with yeast with the addition of fruits, grape juice, apple juice or herbs, respectively. Sweet, medium or dry will be judged on their own merits. At least 8.0 percent alcohol by volume.

**Subcategory 23a: SPARKLING FLAVORED** — carbonated

**Subcategory 23b: STILL FLAVORED** — non-carbonated

## REGISTRATION FORM

The American Homebrewers Association  
Eleventh National Homebrew Competition, 1989

Please print

Name of Competitor \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_

Name of Beer or Mead \_\_\_\_\_

Class Entered \_\_\_\_\_

Subcategory Entered \_\_\_\_\_

Circle One:

Malt Extract   Malt Extract & Mash   All-grain   Mead

Unusual Ingredients (for specialty or mead categories):  
\_\_\_\_\_

For meads only, circle one:   dry   medium   sweet

I am a member of \_\_\_\_\_  
Homebrew Club

Entry Fee Enclosed \$ \_\_\_\_\_

ATTACH ONE OF THESE FORMS TO EACH BOTTLE

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Malt Extract   Malt Extract & Mash   All-grain   Mead

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For meads only, circle one:   dry   medium   sweet

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David Welker, Director  
or Paul Echternacht, Registration Director  
AHA 1989 National Competition  
American Homebrewers Association  
Box 287  
Boulder, CO 80306-0287 USA  
(303) 447-0816





# Beer Bitterness and Boiling



What you see is what you get." No it isn't, as far as hop bitterness in beer is concerned! What you add to your brew as bittering hops is not necessarily reflected in the bitterness of the final beer. Gregory Walz referred to this in an article on wort boiling in *zymurgy* Winter 1987 (Vol. 10, No. 5), which inspired this article.

Gregory pointed out that a full-wort boil gives better hop usage than the partial wort boil practiced by many extract brewers. Homebrewers have learned that alpha acids are the important constituents of hops as far as bitterness is concerned, and *zymurgy* has encouraged them to think in terms of "Homebrew Bittering Units" (weight in ounces times percentage of alpha acid). Yet few are aware that most of this alpha acid is wasted. Even the commercial brewers

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## TERRY FOSTER, PH.D.

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achieve only 35 percent utilization of hop alpha acids in the finished beer.

Are such technicalities really important? If your goal is to brew a specific beer style, reproduce a favorite recipe or just ensure good results every time, then you must have a basic understanding of what happens to bittering hops during the boil.

Three important points about hop alpha acids should be considered:

(1) They must be converted during boiling to isoalpha acids, which are the true bittering agents of beer.

(2) That conversion only takes place in solution, and alpha acids have limited solubility in wort.

(3) The solubility of alpha acids in wort decreases as the gravity of the wort increases.

What these mean in terms of boiling technique become obvious when we look at each point in turn. Without getting too deeply into hop chemistry, the alpha to isoalpha conversion is an isomerization, or molecular rearrangement. It proceeds slowly at the pH of beer wort, so it needs both heat (boiling), and time (one to one and one-half hours) to achieve effective conversion. Shorter boiling times will give less effective conversion. Shorter boiling times will give less alpha acid utilization, but boiling more than one and one-half hours will not improve utilization. The isoalpha acids themselves undergo further conversion into non-bittering products during prolonged boiling, and one and one-half hours is the optimum time for obtaining the maximum amount of isoalpha acids in the wort, for a given alpha acid addition.

The next point is very important.

Because alpha acids are not very soluble in wort, we have to do all we can to maximize that solubility. The more of them we get into solution, the more of them we can convert into isoalpha acids. Now, the alphas are soft resins that melt to an oil at the boiling point of wort. Because of its limited solubility in wort, this oil is just going to sit there in great globules if we give it half a chance. And, if it does that, it is not going to dissolve well. What we have

to do is ensure that the wort boils in a vigorous, rolling manner. That way the droplets of oil will be broken up continually into much smaller droplets, thus exposing much more of the oil's surface area to the hot wort, so as much as possible will dissolve in the wort.

The final point is particularly important for malt-extract brewers practicing a partial boil, and for anyone wanting to make above-average-

strength beers. Putting actual numbers on this is difficult, because it depends not only on wort gravity, but also on the level of bitterness you want to achieve, which in itself will vary with the gravity of the beer. For example, you will probably want a higher level of bitterness in a strong ale of original gravity 1.075, than in an average pale ale of original gravity 1.048, in order to balance the extra body and residual sweetness of the strong ale.

My own rule of thumb is that for every extra 10 degrees of gravity above 1.050, you should add 5 percent more homebrew bittering units (see p. 52 for an explanation of homebrew bittering units) to get the same bittering level. For example, if you had 20 homebrew bittering units in a 10-gallon batch of strong ale at 1.050 and you wanted to make an even stronger ale with the same bitterness level, then you would want a total of 21 homebrew bittering units (which is 5 percent more than 20). If you actually want to increase the bitterness, as I suggested above, 10 percent increase in alpha acid per 10 degrees of gravity is a good starting point. If you use a partial boil, you can take the same approach. If your original gravity is 1.050, and you are going to boil only 2.5 gallons of wort, this will have a gravity of 1.100. Therefore, for the same level of bitterness you will require 5 times 5 percent or 25 percent more alpha acids than for a full five-gallon boil.

This is a brief treatment of a complicated subject. I haven't dealt with the fact that isoalpha acids are lost during fermentation, so that conditions during this brewing stage can substantially affect beer bitterness. Nor have I explained why Homebrew Bittering Units bear no direct relation to the Bittering Units used by commercial brewers. However, I hope I have explained why so many brewing books recommend a full, rolling, one to one and one-half hour boil.

Terry Foster, a Londoner turned New England Yankee, has written and lectured widely about beer. His work as a Ph.D. chemist involves extensive travel, and the opportunity to sample beers all over the world.

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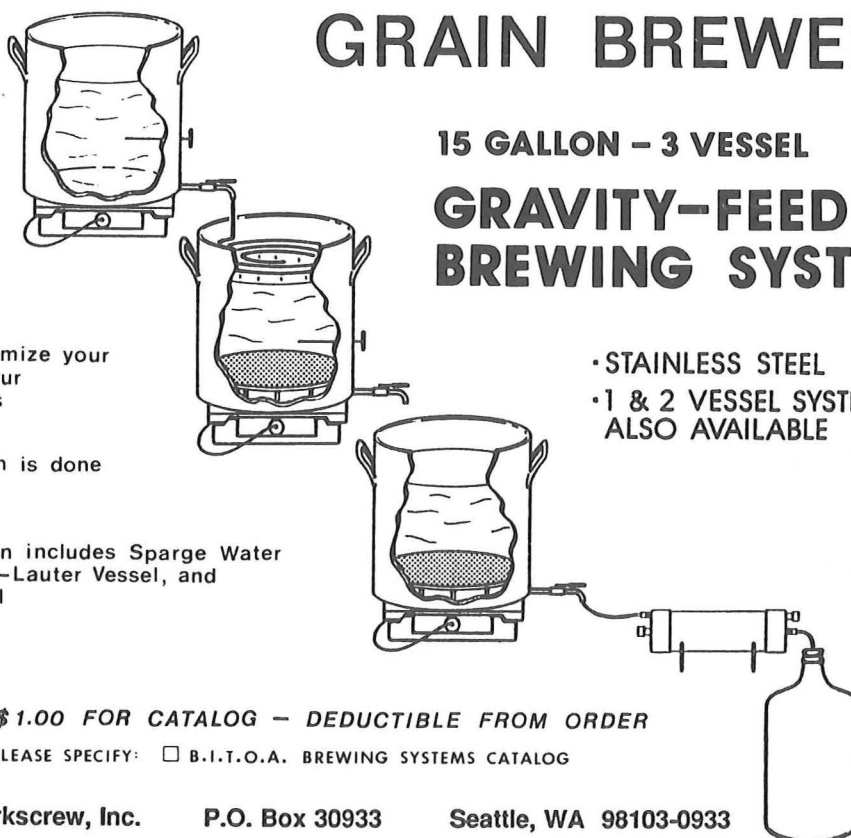
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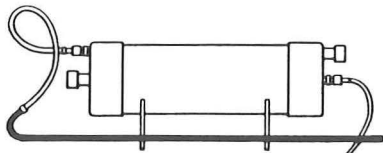
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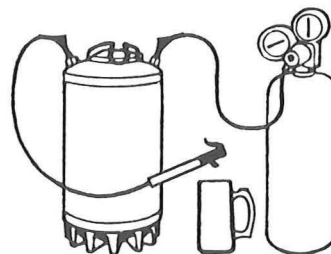
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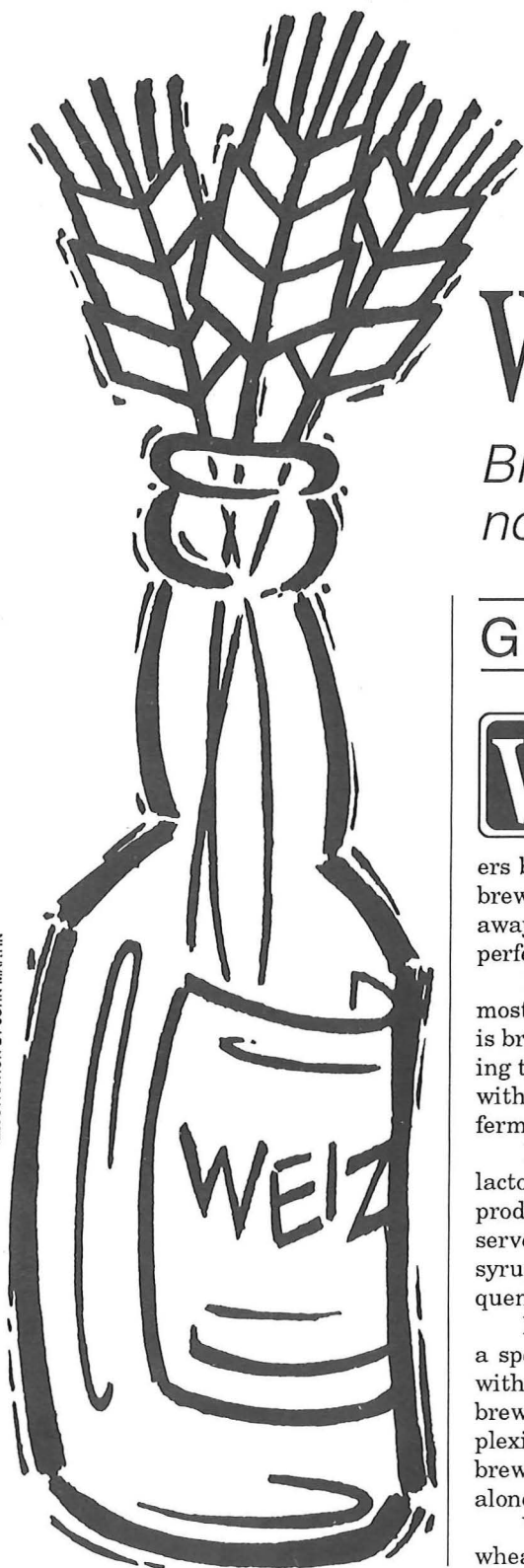
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# Wheat Beers

*Brew these great thirst quenchers now for the warm weather ahead.*

## GARY BAUER

**W**hether trendy or traditional, wheat beers today are becoming the great thirst quenchers of America. Microbrewers brew them, Miller Brewing tried brewing one and homebrewers mash away many hours in pursuit of the perfect wheat beer.

In West Germany, where the most popular wheat beer, Weizenbier, is brewed, young people are demanding the freshest wheat beer available with yeast, served directly from the fermenter.

In Berlin, brewers purposely add lactobacillus, the sour bacteria, to produce the tart Berliner Weisse served with woodruff or raspberry syrup to mellow the sharpness and quench thirst.

Belgians add wheat to lager to get a special dry wheat character along with a dense, foamy head. They also brew ales with wheat for added complexity and fruitiness. Apparently, brewers cannot live by barley malt alone.

Wheat beer is made with both wheat and barley malt. It can be

brewed simply by using wheat or wheat malt in a favorite beer recipe, or according to one of the following traditional wheat beer styles.

**Bavarian Weizenbier** — from the southern region of Germany. Available bottle conditioned with yeast in the bottle (mit Hefe) or without yeast (Hefefrei). Contains high levels of spicy, clovelike flavor. A lemon slice is often added when served. Special types: Dunkel Weizen, Weizen Bock (pale or dark).

### Table 1. Das Berliner Weissbier mit Schuss (with dash)

Raspberry - red  
Himbeer saft — raspberry  
juice syrup

Woodruff (Waldmeister) - green  
1 ounce Woodruff  
2 quarts water  
2 cups sugar  
green food coloring

Boil, reduce to one-eighth original volume, strain. Add 2 cups sugar to 1 cup Woodruff liquid and a few drops of green food coloring.



**Table 2. Comparison of Wheat Beer Styles**

	<b>American Wheat</b>	<b>Weizen</b>	<b>Export Weizen</b>	<b>Berliner Weisse</b>
<b>Original gravity</b>	1.040-45	1.044-48	1.050-54	1.030-34
<b>Final gravity</b>	1.008-11	1.009-12	1.011-14	1.006-08
<b>Alcohol by weight</b>	3.4%	3.6%	4.0%	2.4%*
<b>Attenuation</b>	76-80%	75-79%	74-78%	78-85%
<b>Color (ASBC)**</b>	2-4	3-5	4-6	2-4
<b>Body</b>	light	medium	full	light
<b>Aroma</b>	fruity, hop	estery, clove	estery, clove	flowery, acidic
<b>Flavor</b>	malty, mild	spicy, malty	spicy, malty	tart, sour
<b>Yeast</b>	ale	weizen	weizen	ale
<b>CO<sub>2</sub> volume</b>	2.7	3-3.5	3-3.5	3-4
<b>Bittering Units</b>	9-15	10-14	12-18	4-6
* Lower alcohol percent is caused by bacterial conversion of sugars to lactic acid.				
** The American Society of Brewing Chemists (ASBC) uses the Standard Reference Method (SRM) of measuring color. SRM units can be thought of as equivalent to degrees Lovibond (°L).				

**Berliner Weisse** — from the northern region of Germany. Sour flavor is characteristic. Raspberry or woodruff syrups are sometimes added when served (see Table 1).

**Belgian White Ale and Specialties** — from Belgium. Wheat is used for its flavor or heading properties.

**Belgian Lagers** — also from Belgium. The use of wheat malt adds a crisp, dry grain flavor and provides a dense head.

Table 2 compares the more popular wheat beer styles.

Wheat is a tall (think of the beer glass) slender member of the grass family that bears its grain at the top of the plant called the head (think of the foam). Its origin is shrouded in mythology—a gift of the gods. Thanks to fondness for bread, America is the leading wheat-producing country in the world. Wheat malt sometimes has a reddish tint. German and American wheat malts are hardy red brewers' wheat, while British wheat is lighter colored and plumper.

New wheat malt extracts, whole and preground wheat malt, flaked wheat and wheat pellets are available from many homebrew supply stores throughout the country.

Wheat malt has no husk, making a rather inefficient filter bed in the mash yet providing an 8 percent higher yield per pound than barley malt and less tannic astringency than is derived from barley husks. Because wheat malt is much harder and less friable than regular malt, it must be milled finely enough to allow solution in liquids, yet not so fine that it creates a flour paste.

Wheat malt produces a more viscous mash, especially as temperatures fall below 150 degrees F, because of more complex glycoproteins and beta glucans. An initial low temperature mash rest, 118 degrees to 122 degrees F, helps thin the mash, provides needed yeast nutrients and allows the head-stabilizing proteins to become soluble.

Homebrewers beware — I have always hated the slow runoff of sweet

wort as the mash cooled. Blended with at least 30 percent barley malt containing broken husks, wheat malt can be used to produce a special style of wheat beer. Wheat flour or pellets, used at low levels in the mash-tun, provide improved head retention or produce a little Brussels lace.

If you think full-grain mashing is hard, you may be right. To simplify things a bit, several maltsters have finally provided a wonderful alternative to mashing—wheat malt extract. Personally, I've waited 15 years for a wheat malt extract, and now we can brew wheat beers easily. And it comes in several varieties.

Briess Wheat Malt Extract, available in 60-pound five-gallon pails, produces a deep golden-colored Weizen beer when brewed at the rate of one pound extract to one gallon of brew. The wort has an original gravity of 1.042 and ending gravity of 1.012. The extract is 65 percent wheat to 35 percent barley malt.

Original Ireks Weizenbier Extract from Germany, available in

three-kilogram (6.6-pound) cans, produces a deep golden-colored, malty wheat beer. When brewed with 3/4 pound of Ireks plus 3/4 pound of light barley malt extract syrup per gallon, the result is an original gravity of 1.052 and ending gravity of 1.017. The Ireks Weizenbier extract is 100 percent wheat malt.

The beers discussed above were brewed at 65 degrees F using ale yeast. Ale yeast is acceptable with most styles. However, in the production of a true Bavarian-style Weizenbier one should use Weizen yeast for the traditional clovelike spicy flavor of the style.

Gary Bauer is a six-time winner of the AHA National Homebrew Competition and president of Ambier Brewing Co. in Milwaukee, Wis.

**Table 3. Wheat Beer Production**

	American Wheat	Weizen	Berliner Weisse
<b>Mashing:</b>			
Water / Grain (quarts / pound)	1.5 / 1	1.5 / 1	1.25 / 1
Temp. (degrees F) / time (mins.)	122°	122° / 20	150° / 90
Temp. (degrees F) / time (mins.)	154° / 60	152° / 60	
<b>Boil (mins.)</b>	90	120	90
<b>Hops (mins. before end):</b>			
First	60	75	add in mash-tun
Second	30	30	
<b>Ferment</b>			
Temp. (degrees F) / time (days)	65° / 5	65° / 5	68° / 5
<b>Conditioning</b>			
Temp. (degrees F) / time (days)	34° / 8	40° / 14*	50° / 7
<b>Prime with 1 cup dextrose to 5 gallons, bottle condition at 50 degrees F.</b>			
* If using Weizenbier yeast, rack, add lager yeast, priming, watch for ferment to start, bottle, condition 3 weeks at 45° F for smoother taste and a clearer beer.			

**Table 4. Ingredients for Five Gallons of Grain Wheat Beer**

	American Wheat	Weizen	Dunkel Weizen	Weizen Bock	Berliner Weisse
<b>Original gravity</b>	1.042	1.050	1.054	1.060	1.032
<b>Grist (pounds):</b>					
6-row malt	3 (2.5 L)	3.5 (3.5 L)	2.5 (4 A)	2.25 (4.5 A)	2 (1.5)
Wheat	4 (3.3 I)	4.5 (3.3 I)	5 (3.3 I)	5.25 (4 I)	4 (3.3 I)
Cara-pils	6 oz.	.5			
Munich		.5	2	2	
Caramel-40				6 oz. (E)	10 oz. (E)
Black				2 oz. (E)	2 oz. (E)
<b>Hops (ounces per 5 gallons, 5% A.A.):</b>					
Bittering units (ASBC)*	8.3	9.4	11.3	14.3	4.7
Early	1.5	1.7	2.0	2.5	2.5 **
Late	.7	.8	1.0	1.3	
(L) = Amount of light dry malt extract      (I) = Amount of Ireks Unhopped Weizenbier Extract Syrup (A) = Amount of amber dry malt extract      (E) = Use same amount for extract * Homebrew Bittering Units (HBUs) x 3 = ASBC Bittering Units for 5 gallons of beer (from Byron Burch) ** Whole hops added to mash-tun to improve filter bed <b>Note:</b> To simplify the mashing procedures, wheat malt extract can be used in place of wheat malt, while mashing all other grains.					



## FOR THE BEGINNER

JAY ANKENEY

# Boiling Your First Brew

**G**izmo hit a flying turn off the waiting carboy, "catapulted" over a case of malt extract and landed on all four paws splat in the middle of some bags of bottle caps. It's brewing day and my mighty brewcat was celebrating the occasion with her usual exuberance. You see, Gizmo has a marvelous attitude toward brewing: she knows there is more to

this folk art than grains and hot water, and that the process of a homebrew's creation should be as enjoyable as the consumption of its results.

In the last issue we broke the process down into three stages: brewing, fermenting and bottling. This time we'll give a detailed description of the first stage, boiling a five-gallon batch of brew from malt extract. Then over the next few issues we'll individu-

ally focus on other steps to present a total approach to homebrewing adaptable to all beginners.

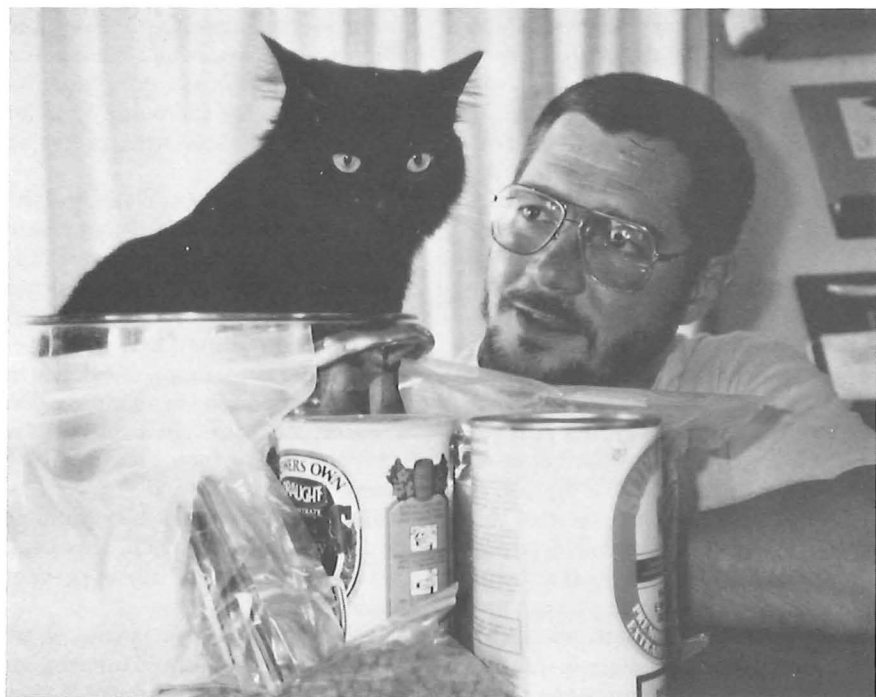
To whet your beer-loving appetite, let me assure you that all these instructions will be based on the same recipe and procedures that produced my 1988 "Easy Beer Porter," which took a first place at the Dixie Cup competition in Texas and won best of show at the Los Angeles County Fair.

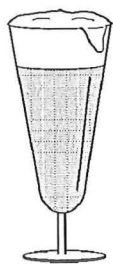
"Now wait a minute," I can hear you saying. "Is this really about 'beginning brewing' for first-time novices?" You betchum it is! My brew partner, Dan Dennis, and I are convinced that good basic brewing techniques should be simple enough for everyone.

So here's the recipe for five gallons:

### Jay's "Easy Beer Porter"

- 3 pounds (1 can) light syrup malt extract (unhopped)
- 3 pounds (1 bag) dark dry malt extract
- pinch of non-iodized salt (for flavor)
- 1/2 pound of chocolate malted barley
- 1/2 pound dark caramel malted barley
- 2 ounces Bramling hop pellets (first boil)





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- 2 ounces Saaz hop pellets (second boil)
- 2 ounces Hallertauer hop pellets (third boil and dry-hopping)  
Ale yeast from a vigorous starter
- 1 cup corn sugar for priming before bottling

But keep your paws off those extract cans for now. That will come in a bit. The biggest pitfall most beginners stumble into is that they start opening cans of malt extract without getting all the other factors like a sterile environment and proper equipment ready first. The fact is, a beginning brewer should know where they're headed before they start. As Gizmo knows, you can't jump a large chasm in two small leaps.

Let's start by assembling the necessary equipment for boiling your maiden brew. First get a little notebook. That's right, a notebook! You ought to start right out keeping simple records of everything you do, when you did it and how it came out. Give each batch a code identification (like "P1" for your first Porter of the year) so you can mark this later on the bottle cap.

For brewing equipment you should have two pots. One, ideally with at least three- to four-gallon capacity, should have safety handles, a snug top and fit into your kitchen sink for cooling later. This will be the main brew pot for the malt extract, grains and hops concoction that will be called "wort" (pronounced "wert"). The second pot anywhere from a two- to eight-quart saucepan, will be used separately for cooking the grain additives we call "adjuncts." These are the specialty grains that give beer its fresh and distinctive flavor. You'll also need a teapot to boil additional water, a stirring spoon or paddle and a fairly large colander (strainer) that can sit on top of the big brewpot to drain the juice off the adjunct grains into the wort. And you'll need a funnel or siphon tube for transferring liquids.

You probably have most of this already. If not, you can find large pots suitable for brewing in most discount stores or thrift shops. Or you can borrow your aunt's spaghetti pot. But if you do, before you brew scrub well and let it sit with some boiling water on the

stove for a spell to remove residual oils and spices left from her last linguini.

Now we begin brewing, but it's still not time to open those extract cans! First you should be figuring backwards — remember Gizmo's second leap. We want to initially create a total of four gallons of wort in our sanitized five-gallon fermenter to leave room for the thick foam kicked up by the yeast during the first three to four days of vigorous activity. We'll top it off to the full five gallons later, after the foam has gone down. This approach is often called "single-stage fermentation." The problem is, your main brewpot may not hold four gallons of churning wort without risking a boilover. You'll need to prepare some presanitized diluting water to make up the difference, because your straight tap water may contain too many contaminants. Just boil a couple of gallons of water and then cool it down by putting the covered pot in your sink and running cold water around it. If you're careful to keep it clean, this can be done a day ahead.

Now it's time to sanitize all your equipment. Everything that comes into contact with wort after it is cooled and diluted must be more than just clean. It's gotta be as sterile as you can get! Before you take that first leap is the time to consider this. Rinse your fermenting vessel, siphon tube and funnels in a chlorine (household bleach) sterilizing solution. Use three tablespoons of household bleach in a gallon of water. Just make sure you splash everything thoroughly and let it drip dry, or rinse with preboiled warm water.

Once everything is clean and the diluting water has cooled, pour it into your sterilized carboy and cover it to wait for the addition of the completed wort. Now gulp twice, bow thrice, and finally open your malt extract!

Put the six pounds of extract in your big pot along with about a gallon of water. Add the pinch of salt for flavor and start bringing it to a boil. Be aware that extract boils over very easily, so you'll want to be careful as the temperature rises. Let this heat, partially covered, and stir to prevent scorching.

Meanwhile, start some water boiling in your teapot, and turn to your one pound of grain adjunct. If they



aren't already, the barley kernels should be cracked for maximum utilization. Either crunch them under a rolling pin or give them a quick spin in a blender. Crack 'em, don't pulverize 'em. Then put the grains to cook in the secondary pot, covered with water. Just as they start to boil, turn off the heat. Otherwise you'll leach out the tannins from the husks and risk off-flavors.

Prop your colander over your brew pot, add the grains, and drain into the malt extract. The husks will act as a filter. When most of the liquid has run through, wash the rest with hot water from the teapot. This is actually a simplified form of "mashing" (boiling) and "sparging" (rinsing).

Bring your wort to a boil, stirring occasionally. Now turn off the heat and add the first two ounces of hop pellets. Hops will give a "bittering" taste to the beer's flavor if boiled for a long time, or an "aromatic" bouquet when only boiled a little. This, and the fact I lean toward unhopped extracts, guided the selection of which hops to use during different stages of the process. Fire up the heat for your first boil and boil 10 minutes.

Turn off the heat and add the second two ounces of hops. Return to a boil for a second 10 minutes. This rise and fall in temperature enhances the hops influence on the wort and minimizes the risk of overboiling. Then turn the heat on again and add half (one ounce) of the remaining hops for a final 10-minute third boil. Finally, add the last one ounce of hops for a dry-hopping effect, and place the brewpot in your sink filled with cold water. This will give you a total of 30 minutes of true boiling time. Many homebrew experts recommend up to one hour of boiling time, while some malt extract manufacturers specify five minutes or less. I have found 30 minutes of true boiling time (about one hour of brewing altogether) to be sufficient, but let your own experience guide you.

If you keep cold water circulating around the pot, it should reach room temperature within an hour or less. Now it will be time to begin the fermentation stage, which we'll cover next issue, along with some helpful hints on airlocks, yeasts, vessels and "cat-alytic" philosophies. While going

over these procedures, by the way, remember that the combination of ingredients can be jumbled in an infinite number of ways to produce a wide variety of beer tastes, so let your fancy wander.

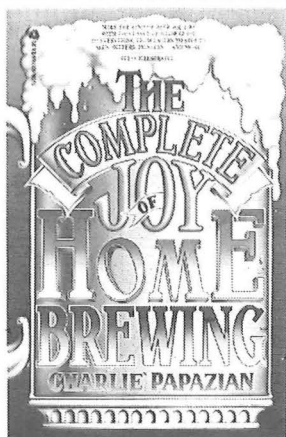
Jay Ankeney has been brewing beer for four years and writing about it for three. He and Dan Dennis are authors of "Easy Beer,

a Beginner's Guide to Home Beer Brewing," published by Anthem Enterprises, Box 1209, Manhattan Beach, CA 90266. Both are members of the Maltose Falcons in Southern California. When not brewing, Jay is a videotape editor at Channel 11 in Los Angeles. His mighty cat Gizmo is two-and-a-half years old and is available for malt extract endorsements.

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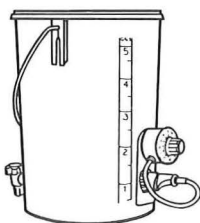
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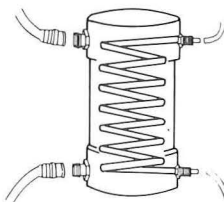


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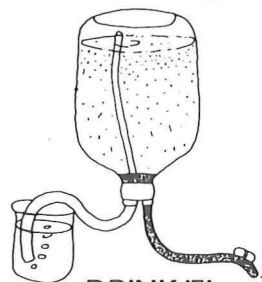


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# WINNERS CIRCLE

DAVID EDGAR



Following the new direction for Winners Circle announced last issue, we are featuring five styles typically enjoyed in the summer months, thus giving you three months advance notice to plan and prepare so that you can have a refreshing summer treat ready by June.

All are lager-style beers except the wheat beers, and will go perfectly with the warmth of the summer season.

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## CREAM ALE

---

### Second Place

**Bill Murphy**

**Brookline, Massachusetts**

**"Boston Cream Ale"**

#### Ingredients for 3 gallons

- 2 1/2 pounds Lager malt
- 1/2 pound Munich malt
- 3/4 pound 6-row pale malt
- 6 ounces cara-pils malt
- 2 ounces wheat malt
- 10 ounces flaked rice
- 2 ounces corn starch (in the mash)
- 8 grams Chinook hops (60 minutes)
- 5 grams Cascade hops (15 minutes)
- 4/10 ounce Cascade hops (at end)
- 1 teaspoon gypsum
- Red Star Lager starter yeast (fourth generation)
- 3 1/4 ounces dextrose to prime

- Original specific gravity: 1.042
- Terminal specific gravity: 1.011
- Age when judged (since bottling): 2 months

#### Brewer's Specifics:

Mash in 5 quarts water at 122 degrees F, add boiling water, hold at 150 degrees to 160 degrees for 60 minutes. Sparge to 10 quarts of 180 degrees water.

#### Judges' Comments:

"Malt and hops aroma are well balanced; very good hop aroma. Color is accurate for category—brilliant clarity! A real good cream ale, very pleasant. This ale has great promise."

"Malty aroma, slight hop in background; estery, fruity, slightly yeasty. Good clarity and color—head tight and long lasting. Good example of the style. Flavor clean, but slightly yeasty. A very well-crafted beer; try this recipe with a liquid culture yeast."

### Third Place

**Paddy Giffen**

**Cotati, California**

**"Cotati Cream"**

#### Ingredients for 5 gallons:

- 8 pounds Klages malt
- 1/2 pound Vienna malt
- 1/2 pound Munich malt
- 1/4 pound caramel-90 malt
- 1/4 pound cara-pils malt
- 1/2 ounce Hallertau hop pellets (60 minutes)
- 1/2 ounce Saaz hop pellets (60 minutes)
- 1 ounce Hallertau hop pellets (30 minutes)
- 1 ounce Cascade hop pellets (30 minutes)
- 1/2 ounce Hallertau hop pellets (dry hop primary)
- 1/2 ounce Saaz hop pellets (dry hop primary)
- Brewer's Choice Standard ale yeast
- 3/4 cup corn sugar to prime

- Original specific gravity: 1.035
- Terminal specific gravity: 1.009
- Age when judged (since bottling): 3 1/2 months

#### Brewer's Specifics:

Mash at 150 degrees F, one-step infusion. Boil 60 minutes.

### Judges' Comments:

"Ale yeast smell—real beer smell—Cluster? Color slightly darker than I expected. Dry beginning—more like a pale ale than a cream ale. Put it in pale ale next year."

"Very nice aroma, enjoyable, but more English-smelling than American. Really nice, clear, great head. Too dark compared to commercial examples. A wonderful British bitter. Doesn't have the American flavor needed for a cream ale. Try cooler fermenting temperature with ale yeast."

---

## PILSENER

---

### Second Place

**Byron Burch**

**Santa Rosa, California**

**"No Trumpets, No Drums Lager"**

#### Ingredients for 10 gallons:

- 11 pounds Klages malt
- 2 ounces crystal malt
- 2 ounces Munich malt
- 2 ounces wheat malt
- 2 pounds Great Fermentations dry rice extract (in mash)
- 1/4 ounce Perle hops (60 minutes)
- 1 ounce Northern Brewer hops (30 minutes)
- 2 ounces Hallertau hops (dry hop)
- 1/8 teaspoon salt
- 1 teaspoon gypsum
- 80 ml St. Louis lager yeast
- Forced CO<sub>2</sub> (10 psi) to prime

- Original specific gravity: 1.039
- Terminal specific gravity: n/a
- Age when judged (since bottling): Two months

#### Judges' Comments:

"Clean, balanced aroma; malt/hops could be a bit more assertive. Appearance excellent for style. Nice head and flow of CO<sub>2</sub>. A little too bitter on the finish—Continental Pilsener in character; boiled too much of hops too long? Excellent beer. Only problem is hopping. Well done."

"A slight sulfury nose; nice malt aroma. The brew is clear, pale, straw-colored with a good head. There is a nice malt and hop balance, hoppy aftertaste. A very nice beer. I liked it; perhaps a different yeast would improve it."

### Third Place

**Steve Daniel**

**League City, Texas**

**"P.U. Pilsener"**

#### Ingredients for 5 gallons:

- 10 pounds Ireks Pilsener malt
- 1/2 teaspoon Calcium chloride
- 1 2/3 ounces Saaz hops (60 minutes)
- 2/3 ounce Saaz hops (1 minute)

*Home culture W-308 yeast*

*Forced CO<sub>2</sub> to prime*

- Original specific gravity: 1.052
- Terminal specific gravity: 1.015
- Age when judged (since bottling): 1 1/2 months

#### Brewer's Specifics:

Three-decoction mash, similar to Noonan technique in *Brewing Lager Beer*. "Zapap" tun used for sparging. Counterpressure filler used to bottle.

#### Judges' Comments:

"Faint hop aroma. Appearance good and clear, appropriate amber color. Hops show through in flavor. Good, faithful flavor."

"Clean aroma. Appearance near perfect; good head retention. A mite aggressive hopping for style. Finish is too strong."

---

## WHEAT BEER

---

### Second Place

**Kerry Carpenter**

**Baker, Oregon**

**"K.C.'s Weizen"**

#### Ingredients for 5 gallons:

- 5 pounds 2-row malt
- 2 pounds wheat malt
- 1 pound Munich malt
- 1 1/4 ounce Galena hop pellets (60 minutes)
- 1 ounce Saaz hop pellets (4 minutes)
- 1/2 teaspoon Epsom salts
- 2 teaspoons gypsum
- 1/2 teaspoon Irish moss
- 2 packets Kitzinger ale yeast
- 3/4 cup dextrose to prime

- Original specific gravity: 1.049
- Terminal specific gravity: 1.007
- Age when judged (since bottling): 8 1/2 months

#### Brewer's Specifics:

Protein rest 30 minutes at 120 degrees. Raise to 152 degrees (in 15 minutes) and hold for 25 minutes. Raise to 158 degrees (in 5 minutes) and hold for 20 minutes. Raise to 170 degrees—sparge with 3 gallons. Boil without hops for 20 minutes. Add boiled water to make 5 gallons.

#### Judges' Comments:

"Very good combination of clove aroma and esters. Golden, clear with mild carbonation. The initial clove and fruit taste is very good but the malt taste is weak and the after bitter is a bit harsh."

"Slightly acidic aroma, not the typical cloves for wheat beer. More amber than typical. Good head, tiny bubbles. Well balanced malt and hops but light wheat character. Use a larger fraction of wheat next time."

# *The New Brewer*

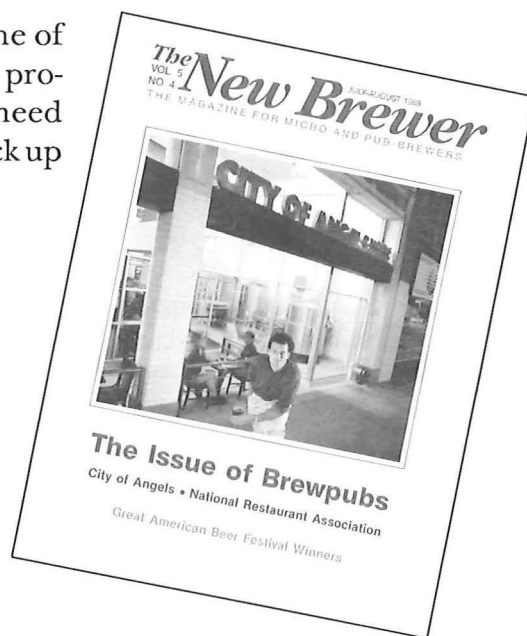
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**Third Place**  
**Jason Held**  
**St. Charles, Missouri**  
**"Party Brau"**

**Ingredients for 9 gallons:**

5 pounds 6-row malt  
5 pounds 2-row Klages malt  
5 pounds wheat malt  
2 pounds flaked rice  
1 pound flaked barley  
1/2 pound flaked corn  
1/2 ounce Perle hops (60 minutes)  
1/2 ounce Perle hops (40 minutes)  
1 ounce Hallertau hops (10 minutes)  
Brewers Choice ale yeast  
1 5/8 cup corn sugar to prime

- Original specific gravity: 1.052
- Terminal specific gravity: 1.017
- Age when judged (since bottling): six months

**Brewer's Specifics:**

Mashed in 4 1/2 gallons 130 degrees water and held at 120 degrees for 30 minutes. Added 1 3/4 gallons boiling water and raised temperature to 150 degrees, held for two hours. Sparged with 170 degrees water and collected 11 gallons water.

**Judges' Comments:**

"Clean, inviting, clovelike aroma; mildly spicy, slightly yeasty. Great carbonation; great head, good lacework, excellent, very refreshing. Nice tartness, lightness. I really like this brew."

"Clean, slight clove aroma is good. Slight haze. Residual sweetness, overcarbonation indicates this was bottled too soon. Well-rounded."

---

## EXPORT

---

**Second Place**  
**Ron Page**  
**Middletown, Connecticut**  
**"Poor Venus"**

**Ingredients for 10 gallons:**

14 1/3 pounds pale malt  
4 1/3 pounds Laaglander malt extract  
3 pounds dextrine malt  
1/2 pound Vienna malt  
17 alpha acid units—Cascade, Hallertau, Tettnang  
2/3 ounce Hallertau (30 minutes)  
2/3 ounce Tettnang (30 minutes)  
1/8 ounce Hallertau (dry hop)  
1/8 ounce Tettnang (dry hop)  
Edme yeast  
150 grams white sugar for priming

- Original specific gravity: n/a
- Terminal specific gravity: n/a
- Age when judged (since bottling): 6-7 weeks

**Brewer's Specifics:**

Infusion mash grains at 152 to 155 degrees for one hour.

**Judges' Comments:**

"Obvious hoppy aroma, with malt underneath, maybe a whiff of oxidation. Clear, big head, golden color, good head retention with nice lace. Body is good, carbonation is fading. Somewhat complex hop bitterness lingers—perhaps a bit too much. A bit malty sweet and hoppy on the finish."

"Very clean aroma; slight malt, little hop aroma. Very large head; very tiny bubbles. Very light amber color—should be lighter. Good, clean malt flavor, but hops tend to overdominate. Nice effort. For Export I would lighten up on finish hops and increase malt."

---

## CONTINENTAL DARK

---

**Second Place**  
**David Bereton**  
**Steamboat Springs, Colorado**  
**"Tectonic Dark"**

**Ingredients for 5 gallons:**

8 pounds Klages malt  
1 pound Munich malt  
1/3 pound cara-pils malt  
1/4 pound crystal malt  
1/4 pound chocolate malt  
1/4 pound black patent malt  
2 ounces Hallertau hops (60 minutes)  
1/2 ounce Saaz hops (60 minutes)  
1/2 ounce Saaz hops (five minutes)  
1/2 ounce Saaz hops (dry hop)  
1 teaspoon gypsum  
Wyeast lager yeast  
3/4 cup corn sugar to prime

- Original specific gravity: 1.054
- Terminal specific gravity: 1.012
- Age when judged (since bottling): 7 months

**Brewer's Specifics:**

Infusion mash at 152 degrees for 90 minutes.

**Judges' Comments:**

"Could use a little more malt for aroma. A little dark, but not bad. Malt and hops come through in flavor. Strong on grains (specialty) but otherwise a good recipe!"

"Stale, oxidized aroma. Red, brown color. Clear; good head, good flavor balance. Stale flavor comes through, though. Good finish. Clean, maybe old."

For a copy of "Outline for Intermediate Brewing," see the "Free from the AHA" ad, page 8.

## WORLD OF WORTS

CHARLIE PAPAZIAN

# Limnian Doppelbock II

**B**rewing a traditional well-balanced German doppelbock is one of the greater challenges for any brewer. This strong (8 to 11 percent alcohol by volume) beer with a malt character shouldn't be so sweet as to satiate the palate. It takes all the skill a brewer can muster and a thorough knowledge of ingredients and how they will combine with one another to provide the satisfying character of a doppelbock.

The style requires a yeast that attenuates well and is a true lager yeast. Ale yeast and its esters have no place in a traditional doppelbock. A smooth, clean, cool-fermented or cold-fermented lager character is essential.

A combination of amber malts needs to be carefully chosen to contribute full body, malt character and suggestions of color without being predominant as distinctive flavor.

The malt character of doppelbocks needs a generous amount of bittering hops — for the purpose of producing a good malt-hops balance, not a bitter beer. The memory of a doppelbock should be malty with just enough bitterness to briefly retain a linger of sweetness. If flavor hops are used late in the boil they should be of a spicy or floral variety and used in conservative amounts so they suggest flavor, not a

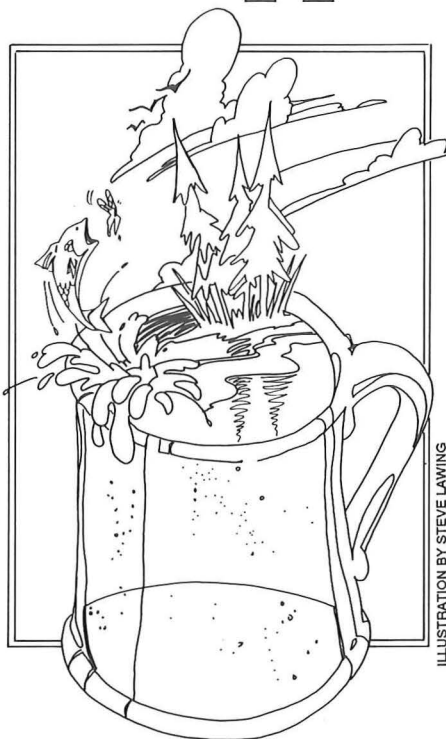


ILLUSTRATION BY STEVE LAWING

bold statement. Hop aroma is optional, but here again floral or spicy varieties such as Yakima Tettnanger, Saaz, Willamette, Hallertauer and even Cascade should be used conservatively.

Limnian Doppelbock II is a 10-plus percent alcohol by volume lager that, when cleanly brewed, has an incredibly long shelf life. With such a high starting gravity it is very impor-

tant to use a lager yeast that will ferment to a final gravity below 1.030. And if all malt extracts are used, you should choose extracts that have a reputation for high fermentability (see *zymurgy* Spring 1988, Vol. 10, No. 1, "Testing Malt Extracts").

With such a high initial gravity it has been my experience (at least with the yeast I use) that quite a few sulfurlike compounds are produced during fermentation that seem to reduce themselves during the aging process. I speak of aging in the bottles, though lagering at cold temperatures will achieve the same reduction.

Because this is a style of beer that is meant to be enjoyed slowly and on special occasions, your stash probably will be around for awhile. This is all the more reason to pay close attention to avoiding the introduction of air. Remember, oxygen causes severe oxidation and will disrupt the malt-hop-alcohol balance of doppelbocks. Also avoid excessive airspace in bottles. One-half to three-quarters of an inch is just fine.

The following recipe is for a 6 1/2 gallon batch. If you wish to brew 5 gallons simply reduce the amount of all ingredients by 23 percent (multiply all amounts of malt and hops by .77 to get actual amount for 5 gallons).

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

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Saaz	3.5	Northern Brewer	8.1
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## Limnian Doppelbock II

*Ingredients for 6 1/2 U.S. gallons*

For the mash:

- 2 1/2 pounds crushed wheat malt
- 3 1/2 pounds crushed malted barley
- 1 pound crushed Munich malt
- 6 ounces crushed dextrin (or cara-pils) malt
- 5 ounces crushed chocolate malt (to give a light brown color)
- 5 ounces crushed caramel (cystal) malt

**Note:** 3 pounds of wheat malt extract syrup and 2 pounds of dried light malt extract may be substituted for the wheat malt, malted barley, Munich malt and dextrin malt.

For the boiling kettle:

- 12 pounds dried light malt extract
- 25 Homebrew Bittering Units (I used 2 1/2 ounces of Eroica) hops for bitterness
- 1 ounce Tettnanger hops for flavor
- 1 ounce Cascade hops for aroma finishing

Healthy culture of lager yeast  
3/4 cups corn sugar for bottling  
Original Gravity: 1.100 (25 degrees Plato)  
Final Gravity: 1.022 to 1.030 (5.5 to 7.5 degrees Plato)

For the mash heat 2 gallons of soft water to 130 degrees F and add crushed malts. Let stabilize at about 122 degrees F and steep for 30 minutes. Then add one gallon of boiling water and stabilize temperature at about 150 degrees F and hold for 15 minutes. Apply heat and raise temperature to 158 degrees while stirring constantly to prevent hot spots. Let steep at 158 degrees for 15 minutes. Conversion of starches to sugars should be complete.

Lauter (strain out) your mashed grains and sparge (rinse) with 3 1/2 gallons 170-degree soft water and collect sweet liquor. Add 12 pounds of light dried malt extract and bittering hops and bring to a boil.

**Note:** If you are brewing this recipe with all malt extract, first add crushed crystal malt and chocolate malt to one gallon of water and steep at 150 degrees for 30 minutes. Then remove grains by straining. Add this

crystal and chocolate malt extract to 2 more gallons of water plus 3 pounds of wheat malt extract, 14 pounds (2 + 12 pounds as mentioned above) pounds light dried malt extract and bittering hops and bring to a boil.

Boil the wort for one full hour. Add flavor hops and boil for an additional 15 minutes. During the final two minutes of the boil add aroma hops and then transfer hot (or prechilled) wort to your sanitized fermenter, to which 2 gallons of chilled water have already been added. Strain out all hops.

For best results add active lager yeast when temperatures are below 60 degrees F. Limnian Doppelbock II is likely to take longer than usual to ferment completely, 12 to 21 days depending on the strain of lager yeast. You may choose to lager the beer at colder temperatures for three to six weeks after the primary fermentation is complete. Bottle with 3/4 cup corn sugar for 6 1/2 gallons of doppelbock.

Because of its alcoholic strength and not being pasteurized, a cleanly homebrewed doppelbock will keep well in the bottle for up to two years, especially if oxidation is minimized when transferring and bottling the beer.

Limnian Doppelbock II is one of my very special beers, often imaginarily enjoyed in the spring woods along a lakeside, spiritually enlivening my blood. A great brew for a Mai (May) bock festival.

## BITTERING UNITS

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 times the number of ounces. For example, if 2 oz. of Northern Brewer hops (9 percent alpha acid) and 3 oz. 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 10-gallon batch or 6.6 in a 5-gallon batch, so it is important to note volumes whenever expressing bittering units.



# DEAR PROFESSOR

PROFESSOR SURFEIT

## Gas Attack

Dear Professor,

In your fall issue, Jay S. Hersh asks about a system for storing grains. I recalled seeing an article in the November 1988 *Yachting* magazine.

### *Pests on Ice*

*While on long-range cruises, I often faced the problem of wee beasties getting into — and destroying — my flour. But then a friend offered this solution:*

*Take a wide-neck plastic jug with a good, tight-fitting cap and place a small piece of dry ice (frozen carbon dioxide) in the bottom. Pour in flour, corn or whatever, and allow it to sit with the cap slightly unscrewed. The dry ice evaporates in about two hours, and creates a total atmosphere of carbon dioxide in which nothing can live. Screw down the cap and the CO<sub>2</sub> gas remains in the container long enough to discourage the hatching of the eggs previously deposited, from whence the wiggles all mysteriously appear. With this approach, flour can last for years.*

—Reese Palley

Jerry Markey  
Oak Park, Illinois

Dear Jerry,

Sounds good to me as long as eggs and insects are susceptible to CO<sub>2</sub> gas. Could get expensive, though. Be careful when handling dry ice—it “burns.”

—The Professor, Hb.D.

## Raising the Gravity

Dear Professor,

Gary Spedding's letter in the Fall 1988 (Vol. 11, No. 3) *zymurgy* concerning low specific gravities was reminiscent of a problem I had.

When I first began using a five-gallon carboy as a primary fermenter, I encountered some impossibly low original gravities. Agitating the carboy, however, increased the gravity. What happened was that I had added water to the wort in the carboy to bring the volume up to five gallons, and the water and wort did not mix very well, leaving a denser liquid toward the bottom and a less dense liquid near

the top, which is where I took the sample for measuring gravity.

If Dr. Spedding begins with less than five gallons of wort in the fermenter, because of boiling losses, leaving trub behind in the brewpot, etc., and adds water to bring the volume up to five or 5 1/2 gallons before measuring the specific gravity, there may be some stratification in the fermenter, and he is measuring the less dense liquid near the top. Agitating the fermenter and taking a second measurement will very quickly reveal if this is the case.

Sincerely,  
Sam Listiak  
Houston, Texas

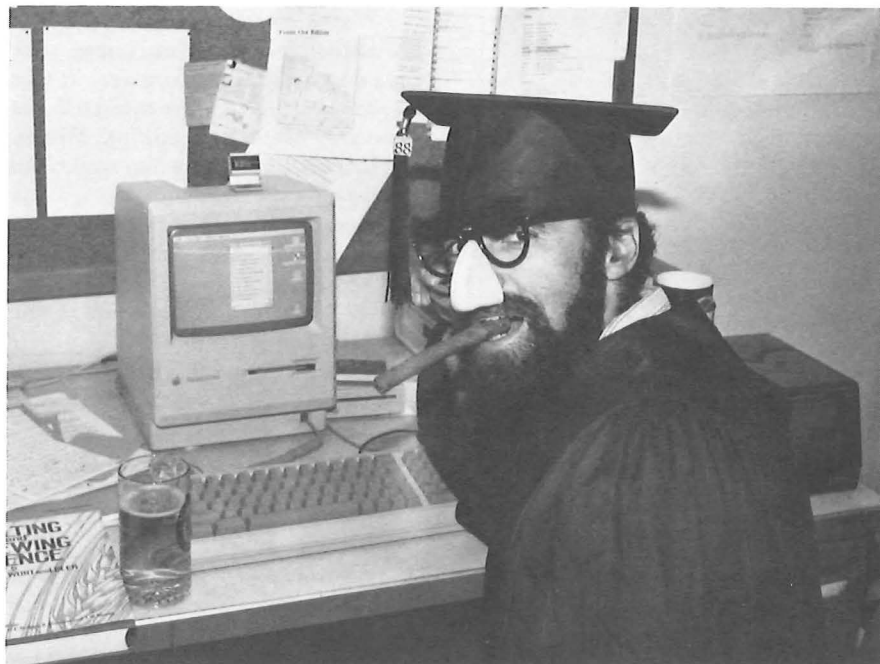


PHOTO BY MONICA FAYRE

Dear Sam,

Thanks for stirring things up a bit.

—The Professor, Hb.D.

## My Worts On Fire

Dear Professor,

I have a terrible problem. I am burning my wort. My finished brew has a strong flavor in it. Most recipes for making homebrew call for bringing the wort to boiling to process the hops and grain. What am I doing wrong? My wort never really comes to a rolling boil like boiling water. I carefully tried to control the heat by not using too high a setting. I've stirred the wort occasionally as recommended. I am using a large canning kettle to boil my wort. Any suggestions? Can I use a thermometer to measure a temperature my wort should not exceed?

Thank you very much.

Yours truly,  
John C. Kuchta  
Orlando, Florida

Dear John,

I assume you are adding water to your malt extract before you boil it at

the normal rate of at least 1 1/2 gallons to five to seven pounds of extract.

You could be using an electric stove, and if so it is best to place a wire trivet on the element to separate the pot from direct contact with the heating element. Those wire trivets are normally used to separate glass or other cookware from direct contact with the element. This should greatly alleviate the scorching.

Keep on stirrin',  
The Professor, Hb.D.

## Sugar Substitutes

Dear Professor,

I enjoy *zymurgy* and the work of the American Homebrewers Association. I think you must have the second best job in the world, Michael Jackson's being the first. Question: why does Dave Line include large amounts of sugar of various sorts in his recipes? Also, can I use his recipes, excluding the sugar but making some other substitutions?

Thanks,  
Gary Heine  
Louisville, Kentucky

Dear Gary,

Yep, I really do enjoy my work and I especially enjoy hearing from other homebrewers about their problems, recommendations and stories of intrigue and homebrew.

Now about Dave Line's book and his inclusion of sugar in recipes. His book was written 15 years ago. It was a great book in its time and still has some very useful information, though the British inclination for sugarized recipes simply does not satisfy the American palate. The remedy would be to substitute dry light malt extract for the sugar at the rate of approximately 1 1/4 pound dry malt to one pound of sugar.

An inclined American,  
The Professor, Hb.D.

## Brewing Pale German Brews

Dear Professor,

I am a recent subscriber to your magazine and a homebrewer for 16 months. I have received two issues of your magazine and have enjoyed them

greatly. Also, I have Charlie Papazian's *The Complete Joy of Home Brewing*, which leads me to my first question. I am confused by the term "golden lager." I recently made Papazian's Winky Dink Maerzen thinking that it was a German style light beer like Dinkelacker or Steinhauser. I was not disappointed in the beer, it's just that I was expecting something else. Do you have a recipe for a German light lager made from extract?

Also, are hop pellets and fresh hops the same weight-for-weight? I have heard different answers and would like to know what is right.

What is the maximum amount of malt that can be used in five gallons of brew? Since I went to all-malt beers my alcohol level has gone down.

What does the SFX stand for on Edme beers (and other Edme products)?

Can you recommend a good extract recipe book? Can beer be made from all dry malt?

Thank you for your time and answers,  
Gene DiPersio  
Eddington, Pennsylvania

Dear Gene,

Sixteen months of brewing and 600 more to go! Yeah.

I've got a couple of recommendations for light German lagers. I'm going to refer you to the "Menckenbrau" recipe in *zymurgy* Winter 1985 (Vol. 8 No. 5); the "Sawadee" recipe in *zymurgy* Summer 1987 (Vol. 10 No. 2); and the "Rainforest Lager" recipe in *zymurgy* Summer 1986 (Vol. 9 No. 2), all of which are pale light German-style lager beers.

With regard to fresh hop pellets versus fresh whole hops: if they are the same variety and crop you can effectively use 15 to 20 percent less hop pellets than whole hops, not because they are stronger, but because the bitter extraction is more easily done with "ground" hops. Please bear in mind that the word "fresh" refers to the quality of hops, not what form they are in.

I've brewed batches of beer with as much as 13 pounds of malt extract for five gallons. 'Twas a fine barleywine ale.

S.F.X. is a brand name of Edme malt and stands for Super Flavex.



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Edme's D.M.S. malt stands for Diastatic Malt Syrup. This is not to be confused with the term DMS (dimethylsulfide) which is a sweet, cornlike flavor and aroma that has absolutely nothing to do with Edme's malt.

An excellent malt extract recipe "book" is our 1986 special issue of *zymurgy* (now in its third printing), featuring all-malt extract recipes galore, including some with all dry malt.

If you got the questions,  
I've got the time,  
The Professor, Hb.D.

## Weeping Barrel Bungs

Dear Doc Surefate,

I am besieged by worries! Rather than resort to benzodiazapines I pen for resolutions. I have been kegging my beer for the last three years because my "pals" seem to lack the ability to rinse bottles. My problem is that my wooden bungs "weep" beer through the keg and unless I coat the outside of the bung with chlorine it gets nasty mold on the outside. I have tried a variety of vendors obtaining equal results. I would use plastic bungs if I could find 'em. What can I do?

My next question concerns personal hygiene. I believe I may have been overzealous with chlorine as a sanitation agent. I learned that restaurant supply houses carry chlorine test strips, and am using them to gauge my sterilant concentration in a keg washing system I am developing. The problem is that the strips read in 10, 50, 100 and 200 parts per million (ppm) and I am not sure what is the ideal concentration. Can you help?

Cryin' Ize,  
John (Ize) Isenhour  
Louisville, Kentucky

Dear Ize,

What's up? Worries? Hey my man, don't worry; perhaps get a bit concerned, but worry? You know worrying spoils the taste of beer more than any other thing in the whole world.

What to do about your weeping bungs? Well, I'll tell you I've had the same problem and I believe one solution would be either to drip melted candle wax on the bung once it's in place or dip the outside third of the bung into a pot of melted paraffin.

That should inhibit those nasty molds. Don't worry, I've never encountered a mold that could grow through to the inside.

Next question. A solution of five to 25 ppm of chlorine can be made by adding 1/3 to 1 1/2 teaspoons of household chlorine bleach to five U.S. gallons of water. This will sanitize your equipment with about a one-half to one-hour soak. So I'd recommend the 10 ppm test strip as being adequate and the 50 ppm as something you could use, then dilute your solution to 25 ppm by adding an equal amount of water. Simple, eh?

Weeping Kowabungas,  
The Professor, Hb.D.

## Be Cool Pitching

Dear Professor,

I have a couple of questions regarding brewing and I'm wondering if you can help me. The questions are these:

1. When yeast is pitched into the wort, should it be "started" a few hours before or should it just be added (when wort's cool) straight from package to wort?

2. Is there any common method for cooling the wort before yeast is pitched? On my first batch, the wort seemed to resist cooling, getting "stuck" at 78.

Happy homebrews,  
D.S. Keista  
New York City, New York


Dear D.S.,

Without a doubt, pitch your dried yeast straight out of the packages. Use at least two for every five gallons for a healthy start. Those packages of dried yeast are designed to really kick off without making up a starter. If you have a very clean, near-sterile procedure, the best possible thing you can do with dried yeast is to hydrate it in pure water at about 110 degrees F for 10 minutes then add it immediately to your wort. If you want to make a starter then you need to learn about yeast culturing techniques and have an appreciation for sterility and sanitation.

Having trouble getting it cool, eh? I wrap a wet towel around my carboy when I want to get the temperature of the wort about 10 degrees cooler than

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room temperature. Other than this simple method you'll have to find an environment that really is the temperature you want the wort to be.

*You betcha,  
The Professor, Hb.D.*

## Lord of the Rings

Dear PerFesser,

Should we fill our carboys to a lower mark to prevent blow-off? It's hard to predict how much of a krausen will form on a primary fermentation because of the variables of: 1) original gravity, 2) temperature of ferment (we don't all have steady temperature cellar environments) and 3) level of proteins that promote head retention (addition of malted wheat or flaked barley).

Closed fermentation in a carboy has to be the only way to ensure a reasonably sanitized environment for our fermentations. A blow-off tube is good insurance against creating a mess even if carboy levels are adjusted in an attempt to prevent blow-off.

I heard on the news that they

don't recycle plastic bottles because they absorb contamination. Anything that is at all porous will, of course, have this problem, even if the porosity is not evident to the naked eye.

I finally licked my ring around the collar. After switching to closed single-stage fermentation in the carboy and still having the problem I was left with one last source, the carboy. The carboy had some fine scratches probably made with the metal end of the carboy brush. Switching carboys confirmed the hypothesis and those dirty rings have been whisked away.

I have considered several techniques to reduce the likelihood of introducing microorganisms into your wort or beer and here is a list of some good common-sense things to do. Several are related to ideas that are the basis of medical and surgical aseptic techniques.

1. Wear fresh, clean clothes.
2. Make sure your work area is clean and free of dust.
3. Avoid reaching over your sterile wort or beer.
4. If something sterile touches

something not sterile it is considered contaminated, so resanitize.

5. Things will remain sterile only for short periods of time when exposed to open air. Sanitize just before using.

6. Wash hands well and often. Betadine scrub is best. A bacteriostatic soap like Dial is second best.

*Don Smith  
Old Orchard Beach, Maine*

*Dear Don,*

*About your question on whether or not to adjust the fill level of the carboy for fermentation, this answer may seem wishy-washy, but it really isn't meant to be. It's up to you. If you feel comfortable with the blow-off method, then blow it off. I've been doing it for about five years now with only minor incidences of popping the cork. I learned my lesson—strain out the hop pellets!*

*If you are at all uncomfortable with the blow-off method there's no problem with lowering the fill level. Great beer can be brewed either way.*

*Blowing it off,  
The Professor, Hb.D.*

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 Neil Russell — Hyattsville, Md.  
 Jerry Sadofsky — Omaha, Neb.  
 Kent Saltonstall — Rising Gorge Brewery, Edmonds, Wash.  
 Richard Saunders — Seattle, Wash.  
 Mark Sayer — Redwood Coast Brewers, Aptos, Calif.  
 Neil Schulz — Schulz's Variety Cellar, Ashley, Mich.  
 Michael Toungette — Birmingham, Ala.  
 Alexander Van Rensselaer — Westport, Conn.  
 Jeffrey Waalkes — Milwaukee, Wis.

# REVIEWS

## COLONEL JOHN

*Editor's note: Colonel John routinely brews according to his own procedures, which sometimes vary significantly from those suggested by product manufacturers. He believes these changes results in improved products.*

### Geordie Original Extra Strong Bitter Kit

Like many other English kit manufacturers, Geordie is a proponent of the no-boil school. Their instructions are very simple. Just dissolve the can of hop-flavored syrup (wort) in hot water with the recommended white sugar, then add sufficient cold water to make 30 U.K. pints, pitch the yeast that is furnished and ferment above 70 degrees F.

I believe that every homebrewer, beginning or long experienced, deserves to make a superb brew even on the first try, so I did as follows.

I brewed with one can of extra strong Geordie Ale kit, 2 1/2 pounds of light dry malt extract, two teaspoons of gypsum, 1/4 teaspoon of Irish moss and the packet of dried yeast. All ingredients except yeast were dissolved in warm preboiled water and then boiled for 45 minutes. More preboiled water was added to make a five-gallon batch. The original gravity was 1.045 at 80 degrees F.

Hydrated yeast was added and the beer fermented out at 60 degrees F in a seven-gallon carboy.

The beer was bottled on the seventh day. It was batch primed with 3/4 cup of corn sugar boiled in water, instead of a teaspoon in each bottle.

Geordie Original Extra Strong was reviewed after four months in the bottle. It was crystal clear, a deep rich

red color with a small long-lasting head.

The aroma was generously malty with tones of sweetness. Hop aroma, if any, was not evident. Hop bitterness was very faint to non-existent and a pleasant, clean inviting aftertaste was noticed. There were no unpleasant or alien flavors.

Many homebrewers will want to add an ounce of medium strength hops to this brew to improve the character.



### English Ale Kit

John Bull's English Ale kit is a "Don't boil the wort, add white sugar and a spoonful of sugar in the bottle, and ferment above 70 degrees F" type of kit. I rejected all three of these combined tenets as the basis for an inferior beer, as you shall soon see.

The kit contains 3.3 pounds of flavored malt extract accompanied by a packet of dry yeast and instructions. The only additional ingredient recommended is white sugar.

I made the brew using the kit and an equal size can of plain light malt extract in place of sugar, plus two teaspoons of gypsum, 1/4 teaspoon of Irish moss and the aforementioned package of yeast. All ingredients ex-

cept the yeast were boiled for 45 minutes in water, then more preboiled water was added to make six U.S. gallons. The original gravity was 1.040 at 80 degrees F.

The hydrated yeast was added and the beer fermented out at 60 degrees F in a seven-gallon carboy.

The beer was bottled on the seventh day, and primed by the batch method with one cup of corn sugar boiled in water.

After four months in the bottle, the ale kit brew was a sparkling clear, rich golden amber color with a long-lasting small head.

The aroma was crisp, cool and inviting. The flavor was clean and malty with some hop bitterness lingering on the tongue. There were no unpleasant or unidentifiable flavors and the aftertaste was clean, crisp and lingering.

I believe English Ale is a kit that most homebrewers could be proud of, when brewed according to my suggested alterations.

### New Product News — The Brewsack

The new product Brewsack is just that — the beer ferments inside the sack and then is dispensed to the beer mug through a valve at the bottom. It is truly a single-stage ferment.

A polyethylene bag lines the Brewsack and contains a premeasured quantity of malt syrup. This is necessary to keep the contents from leaking out.

Brewsack is distributed by B&H Technical Services Ltd. of Bellevue, Wash. I will use a Brewsack and report on the results in a future column.



# HOME BREW CLUBS

DAVID EDGAR

*zymurgy always welcomes news and photos from homebrew clubs. Send information to David Edgar, Club News Editor, zymurgy, PO Box 287, Boulder, CO 80306.*

## NEW CLUBS

### CALIFORNIA

**Crown of the Valley Brewing Society:** The Society meets monthly at the Crown City Brewery. Dues are \$12 per year. Benefits include a monthly newsletter, access to Crown City Brewery's library of brewing literature and a 10 percent discount at the local homebrew shop, The Shade-tree Shop at La Crescenta. Contact Mike Lanzarotta, Crown City Brewery, 300 S. Raymond Ave., Pasadena, CA 91105; (518) 577-5548.

### ILLINOIS

**Egyptian Zymotic (EZ) Brewers** began last May. They have 45 members who live in the 12 southern-most counties of Illinois. 15 members are in or near Carbondale. Contact: Doug Diggle, EZ Brewers, c/o Old Town Liquors, 514 S. Illinois Ave., Carbondale, IL 62901; (618) 457-3513.

### MAINE

**Belfast Area Brewers:** Founded last October by six Belfast area brewers, the membership has since grown to 23. Contact: Bruce Gillett, RR 3, Box 789, Belfast, ME 04915.

### NEW MEXICO

**Dukes of Ale** had their first meeting in Albuquerque in February, electing officers and discussing a charter. They planned a trip to the Santa Fe Brewery in Galisteo, N.M., to witness brewing and sample their English-style pale ale.

The Dukes are gearing up for the Sixth Annual Southwestern Beer and Wine Competition associated with the Ninth Annual New Mexico Beer and Wine Festival. Both events will be in the latter part of May. Anyone wishing to submit an entry for competition may call Victor's Grape Arbor at (505) 883-0000 for details. Club meetings are to occur at least once a month to discuss brewing techniques, and produce and sample new brews. Contact: Guy Ruth, 11524 Manitoba NE, Albuquerque, NM 87111; (505) 848-5366 (work) or (505) 294-0302 (home).

### TEXAS

**Brew Maxx Homebrew Club:** Jim Reese reported on his expedition to the Dixie Cup competition in Houston. It was agreed that Brew Maxx should have more contact with other clubs in the state even though the distances make direct contact difficult.

Having a good club attendance at the 1989 AHA National Conference was discussed and President Scott Brown announced the feasibility of getting group airfare rates if attendance was high enough.



**Members of the Bock 'n' Aleians, Houston, Texas, gather with brew of the finest kind.**

The awards ceremony for the second annual Dining Duck local homebrew competition and the monthly meeting were Dec. 16 at North Texas Fermentables. Contact: Scott Brown, 6702 Susie Rd., Amarillo, TX 79119; (806) 655-2330.

### UTAH

**See No Evil Homebrewers Association:** "Our thanks to the AHA and Rob Cunov whose help made our club possible," this Salt Lake City area club writes. Coming events include a tour of Schirf Brewing Co., Park City, and judging for the AHA Bock is Best Club Competition. The informal and unstructured group meets on a rotating basis along the Wasatch Front approximately every six weeks. Goals include the enjoyment of handcrafted beverages, helping beginners get off to a good start and attempting to drag Utah into the 20th century concerning homebrewing legislation. Contact: John Smolley, 2859 Glen Oaks Dr., Salt Lake City, UT 84109; (801) 486-4684.

### CANADA

**Thunder Bay Home Brewer's Association** formed last September, has 22 members and is growing. The local Renegade Brewery has been of great help to the club, and the monthly meetings are held in the brewery's courtesy lounge. The club held its first competition in January. Contact: Bruce Holm, RR15, S. 9, C. 51, Thunder Bay, Ontario, Canada P7B 5N1.

### ALABAMA

**Birmingham Brewmasters:** The club meets the first Thursday of each month at the Birmingham Homebrew Shop. Contact: Ben Meis-

ler, PO Box 19728, Birmingham, AL 35219; (205) 967-6965.

**Madison Sobriety Club:** The club has no formal structure and meets approximately every six weeks. Contact: Steve Conklin, 311 Red Oak Rd., Madison, AL 35758.

### ALASKA

**Great Northern Brewers** stole the show at the Alaska State Fair last August. Dave Yanoshek won the lager division with his bock and Carl Hein won the miscellaneous division with his Imperial stout, which then went on to garner Best of Show honors. This year finds the Great Northern Brewers busy writing their state legislators regarding the Alaska homebrew law. At press time, the fate of the homebrew competition at Alaska's Fur Rendezvous was still in limbo. Contact: Dave Olewiler, 7601 E. 34th Ave., Anchorage, AK 99502.

### ARIZONA

**Bisbee Brewers:** Contact: Bruce "Zub" MacMasters, Box 144, Bisbee, AZ 85603.

**Brewmeisters Anonymous:** At the September meeting it was proposed to establish monthly club competitions with points being awarded to the winners and the recognition of "Brewer of the Year" going to the person who amasses the greatest number of points by the year's end. Contact: Harold Gee, 242 W. Ivyglen, Mesa, AZ 85201; (602) 834-3974.

### CALIFORNIA

**Anza Brewers and Connoisseurs** held a tasting at the Crown City Brewery in Pasadena in October. In December they held a tasting/judging of all commercially available Christmas beers. In

# CLUB BULLETIN BOARD

## First Epicurean Delight Sausage Open

Informal tasting and judging held at the AHA Conference on Quality Beer and Brewing on Homebrew Club Night, June 8. Open invitation to anyone interested.

Bring one or two double loops of your favorite smoked sausage from your area, commercial or home-made. The sausage will be sliced, tasted, and judged. Each person may vote for his or her favorite sausage.

To minimize problems in transportation and serving, we have to limit the tasting to smoked sausages only.

Dave Norton, Kenosha, Wisconsin  
Maureen S. Nye, North Hollywood, California  
Bill J. Pfeiffer, Wyandotte, Michigan

## Bock is Best Homebrew Club Competition

Entry deadline April 28, judging May 6.  
For details on how to enter, contact  
Daniel Bradford, AHA, PO Box 287,  
Boulder, CO 80306, (303) 447-0816.

## HOW TO POST NOTICES

Please send typed, double-spaced notices to **zymurgy** bulletin board, PO Box 287, Boulder, CO 80306. Size and format will depend on the space available each issue. Limit of 75 words.

Deadlines: Spring: Jan. 10; Summer: April 20; Fall: July 20; Winter: Oct. 5

## 1989 Homebrewers Alliance National Conference and Competition (HWBTA sanctioned) St. Louis, Mo., May 10-13, 1989

Sponsored by the St. Louis Brews and Bacchus and Barleycorn of St. Louis, open to all homebrewers. Conference will include lectures, demonstrations, commercial and homebrew tastings, banquets, a pub crawl, an HWBTA-sanctioned competition, and a Beer Judge Certification test.

For more information contact Bacchus and Barleycorn, 7314 Manchester Rd., St. Louis, MO 63143, (314) 644-4664, or Jason Held (eves.) at (314) 723-2172.

first place was Sierra Nevada's '86 Celebration Ale; in second, Gorky's Russian Imperial Stout; in third, Anchor '83 Christmas Ale. Contact: Al Andrews, 5740 Via Sotelo, Riverside, CA 92506; (714) 682-7202.

**Barley Bandits:** By coincidence, their November meeting was devoted to brewing gadgets—at the same time as the *zymurgy* Special Issue on brewers and their gadgets came out. Several of the gadgets featured in the Special Issue were Bandit Rolf Franzke's. Contact: Dick Reese, 105 S. Glendon, Anaheim, CA 92806.

**Butte County Brew Crew:** The Brew Crew combined forces with the Shasta Sudsers for a fantastic Oktoberfest at the Woodson Bridge State Campgrounds. Meetings are at the Sherwood Brewing Co. on the first Monday of each month. Contact: Bill Kalberer, The Home Brew Shop, 331 Main St., Chico, CA 95928; (916) 342-3768.

**Clan de Stein:** Clan members won the majority of ribbons at the Ventura County Fair. They were John Aspell, Mike Christiano, Paul Gleason, Sue Kennedy, Jim and Pat Knutsen, Burt Smith, Eric Stubjaer and Dave Twyman. In September Jim and Pat talked about how they brewed their Best-of-Show Mint Pilsener. The November meeting featured two kinds of "turkey" beers — beers that go well with a turkey dinner, followed by a trouble shooting session about homebrews that are real turkeys. Annual dues are \$15 per household. Contact: Ed and Diane Keay, 183 Nob Hill Ln., Ventura, CA 93003; (805) 648-3836.

**Crown of the Valley Brewing Society:** see listing under *New Clubs*.

**Fellow Fermenters:** Annual dues are \$12. Contact: David McCartney, c/o MCC Homebrew Supplies, 707 Highway 175, Hopland, CA 95449; (707) 744-1704.

**Foam Heads:** The September meeting featured a stout competition. Winners were, for Irish stout — Bob Palmer; English stout — John

Erickson, Josh Sacker and Dave Luka; Imperial stout — Mark Hayes. October featured their annual Oktoberfest at Alpine Village. Contact: Mike Montez, The Brewer's Mart, 16114 Leffco Rd., Whittier, CA 90603; (213) 947-5170.

**Gold County Brewers Association:** Brew of the Month schedule: April — bock; May — light ale; June — wheat beer; July — continental lager. Congratulations to November Brewer of the Month Phil Steed (porter) and December Brewer of the Month Tim Quinn (strong ale). A special event in April will be the club's Celebration and Interclub Competition. Contact: Jim Fish, PO Box 255281, Sacramento, CA 95865; (916) 666-6217.

**High Desert Homebrewers:** Contact: Scott Bryan, 15107 Burns Dr., Apple Valley, CA 92307; (619) 247-0784.

**Inland Empire Brewers:** Congratulations to Sam Wammack for winning second place in the steam beer category at the Dixie Cup competition in Texas. About 15 Brewers went on a field trip to the Crown City Brewery in Pasadena for a tour and sampling (a good selection of commercial as well as premises-brewed). All in attendance gave rave reviews. Contact: Sam Wammack, 16490 Jurupa Ave., Fontana, CA 92335; (714) 822-3010.

**Maltose Falcon Homebrew Society:** At the December meeting the Christmas Beer Tasting included Anchor's 1988 Merry Christmas Ale, Sierra Nevada's 1988 Celebration Ale, and St. Stan's Festbier Alt Ale. Members initiated a homebrew troubleshooting panel, which will be available at every club meeting. Members bring in homebrew and notes on their brewing process for analysis and helpful hints by brewers with more experience and by recognized judges. In January, the club was involved in the Southern California Craft Beer Festival with 40 Pacific Coast microbrewed beers available to sample. A special section was set aside for homebrewing.

AHA 1988 Homebrewer of the Year and

Maltose Falcon John C. Maier spoke at the January meeting and showed slides from Chinook Alaskan Brewing Co.

Mayfaire 1989 Homebrew Competition preparations are underway. This annual Maltose Falcon-sponsored competition will be held April 29. Entry deadline is April 22. Contact: Maltose Falcon Homebrewing Society, c/o Home Wine and Beer Making Shop, 22836 Ventura Blvd. Unit 2, Woodland Hills, CA 91364; (818) 884-8586.

**Redwood Coast Brewers:** Contact: Dave Shields, 110 Greenbriar Dr., Aptos, CA 95003.

**Redwood Lagers:** Contact: Brad Gordon, PO Box 323, San Rafael, CA 94915, (415) 459-7401.

**San Andreas Malts:** Kudos to Tom and Darryl Richard (first prize light lager), Brendan Moylan (first prize sweet stout), Michael Dineen, Robert Garabedian, Mike McQuade and Grant Johnston for their awards at the San Mateo Fair contest. The Yolo County Fair saw Grant Johnston take Best of Show for his brown ale and first prize in the light category. At the California State Fair Ed Tringali won first place in light ales; Robert Garabedian and Teri Fahrendorf both had two second-place beers. Other winners were Grant Johnston and Tom and Darryl Richard.

Thad Smith and Bill Shields took gold medals in the pale ale and brown ale categories, respectively, at the Sonoma County Harvest Fair. Other winners at Sonoma were Grant Johnston, the Richards, Ed Tringali, Bill Stender and Robert Garabedian—whose Old Ale won the gold medal and went on to take Best of Show.

Teri Fahrendorf completed the fall course at Siebel's Institute of Brewing Technology. After that she did a three-week internship at Sieben's River North Brewery in Chicago and planned to head up to the Pacific Northwest for permanent employment. Contact: Brendan Moylan, PO Box 40744, San Francisco, CA 94110, (415) 994-2771.

**SLO Brew Club:** Contact: Howard Gootkin, 56 Los Verdes Dr., San Luis Obispo, CA 93401; (805) 541-0713.

**Santa Clara Valley Brewers Association:** Kevin Hill took first place in the pale ale category at the Alameda Fair competition. Also winning awards were Bill Kirk, Bruce Spaulding, Bob Gray, Tony Ballard, Kevin Brady, Rick Moshin, Roland Mangan, Allan Branch, Woody Godfrey and Brian O'Donnel. At the Santa Clara County Fair, Mike Varner's first-place stout went on to take Best of Extract Division and Rick Moshin's first-place pale ale took Best of Grain Division. Moshin also took three other first-place awards, for light lager grain, dark lager grain and stout grain. Other first-place winners were: Roland Mangan, light lager extract; Brian O'Donnel, stout grain; and Bob Hufford, amber style grain. Also winning awards at the Santa Clara Fair were Roger Evans, Walt Rosenberg, Bill Kirk, Keith Smock, Jill Hambleton and Debbie McIntire.

What, more winners? Bruce Spaulding won first place in the pale ales at the San Mateo Fair. Bob Hufford pulled a hat trick at the California State Fair, taking first place in the dark lager, brown ale and strong ale categories. Bob Gray won a third place at the State Fair.

Annual dues are \$12. Contact: Rich Moshin, 1876 W. San Carlos Ave., San Jose, CA 95128; (408) 294-7321.

**Shasta County Suds'ers:** September's meeting featured Tim Williams, a Suds'er and the Brewmaster at the Redding Brewing Co., discussing "The Glamour of 10-Barrel Brewing and How It Relates to the Art of Homebrewing." Oktoberfest '88 was a great success with 14 kegs of homebrew and eight of commercial brew—130 gallons of beer! Contact: Ray Ault, PO Box 839, Anderson, CA 96007, (916) 347-5475.

**Sonoma Beerocrats** traveled to San Francisco in January, to be honored as the 1988 California Homebrew Club of the Year. The award is given annually by Anchor Brewing Co. of San Francisco to the club that not only does well in competitions throughout the year, but that does the most to promote and advance homebrewing.

Besides receiving tours of the brewing facility at Anchor, the Beerocrats will be treated to a steak dinner prepared on the premises by members of the brewery staff.

In December the Beerocrats enjoyed a dinner party at the home of Dan and Bonnie Howe. The dinner was catered by members Elicia Sherman and Bill Tellman. A gift certificate from Kelmer's Brewhouse, donated by the brewpub, was raffled off and \$34 was raised for the Humane Society. Annual dues are \$10. Contact: Nancy Vineyard, c/o 840 Piner Rd., No. 14, Santa Rosa, CA 95403; (707) 544-2520.

**Wild Yeast Culture:** Contact Bob Katentburg, 1397 E. 28th St., Oakland, CA 94606; (415) 689-9334.

**Worts of Wisdom:** Contact: Dick Bemis, c/o The Fermentation Settlement, 1211C Kenwood Ave., San Jose, CA 95129; (408) 973-8970.

## COLORADO

**Deep Wort Brew Club** took third place in the first annual AHA Best of the Fest October seasonal beer competition with Highland, a group effort. Contact: Bob Wood, 110 S. Limit St., Colorado Springs, CO 80905; (303) 520-0348.

## CONNECTICUT

**Beer Brewers of Central Connecticut (BBCC)** held a very successful Octoberblast, featuring 12 cases of ales and Oktoberfest beers—about 60 percent of which was homebrew. Congratulations to Ron Page, who won second place in the AHA's Best of the Fest competition last fall with his Trapeze Artist, and Best of Show at the New England Regional competition with his strong beer, Eviction Ale. Contact: Judy Lawrence, Box 511, Marion, CT 06444, (203) 628-4693.

**Underground Brewers' Club of Southeastern Connecticut:** A \$10 annual membership fee was recently approved to help pay for entry fees in national and regional competitions. Contact: Pat Baker, 11 Riverfield Dr., Weston, CT 06883; (203) 272-8028.

## FLORIDA

**Escambia Bay Brewers:** The Brewers are excited about the opening of Florida's first brewpub, McGuire's, in their hometown of Pensacola. Annual dues are \$12. Contact: Steven J. Fried, 4544 Montpellier Dr., Pensacola, FL 32506; (904) 455-8722.

**Florida Institute of Zealous Zymurgists (FIZZ):** Contact: Dave McCarty, PO Box 4547, Ft. Lauderdale, FL 33338; (305) 764-1527.

## IDAHO

**Ida Quaffers Homebrewers Association:** April 16 is the date of the Third Annual Gem State Homebrew Competition. Entry deadline is March 22. Send entries to Brewers Connection, 3898 W. State St., Boise, ID 83703. Meeting and finals will be hosted by Bob and Robin Young, 429 N. 19th, Boise, Idaho, on April 16. The May meeting will be hosted by Phil and Margaret Childers, 3440 Quail Place, Boise. The June meeting will be hosted by Byron Defenback, 2907 Agate St., Boise. Annual dues are \$8 per year. Contact: Loren Carter, 3401 Tamarack Dr., Boise, ID 83703; (208) 342-4775.

## ILLINOIS

**Chicago Beer Society** enjoyed the International Beer Tasting XII held at the Berghoff Restaurant. The winner this year was Sprecher's Oktoberfest. Featured as part of the program were brewmasters from Sprecher, Goose Island and Lakefront breweries. In November the Society provided beer for a homebrew tasting at the Sieben Brewing Co. Contact: Chicago Beer Society, PO Box 1057, LaGrange Park, IL 60525; (312) 692-BEER.

**Egyptian Zymotic (EZ) Brewers:** see listing under *New Clubs*.

**Headhunters Brewing Club:** Contact: Greg and Lynne Lawrence, Route 1, Box 64W, Sugar Grove, IL 60554, (312) 557-2523.

**Northern Illinois Better Brewers Association (NIBBA):** Contact: Jon Huettel, 2316 Oak St., Northbrook, IL 60062-5220, (312) 498-6154.

## KANSAS

**Greater Topeka Hall of Foamers:** The club meets the second Wednesday of each month. Contact: Tom Bonnel, 320 Woodlawn Ave., Topeka, KS 66606, (913) 232-8103.

**Kansas City Bier Meisters:** Congratulations to Jackie Rager for a first place in specialty brews (ginger beer) and Runner-Up Best of Show at the HOPS Competition in Philadelphia. Jackie also won third place in wheat beers at the Dixie Cup competition in Houston. Two other outstanding brewers from Kansas City were recognized at the Dixie Cup: Alberta Rager took first place in fruit beers (strawberry) and third place in American light; and Curt Hulse won third place in the continental dark category.

Six kegs of homebrew, barbecued chicken and great weather brought quite a crowd to Wyandotte County Lake for the sixth annual Oktoberfest. The November meeting featured guest speakers from Crawford Distributors who provided an interesting alcohol awareness program. Despite sparse attendance at the Christmas party, the food, fellowship and brews were beyond compare.

An AHA/HWBTA Beer Judge Certification exam will be offered March 11. March 11 also is the date of the sixth annual Kansas City Bier Meister Homebrew Competition. Contact: Alberta Rager, 5531 Reeds Road, Mission, KS 66202, (913) 236-5953.

## KENTUCKY

**Kentucky Homebrewers Association:** The club features regular meetings and a newsletter. The informal meetings will provide a medium for exchanging recipes and techniques, and tasting homebrew. KHA is sponsored by Heidenreich's Homebrew Wine and Beer Supply. Contact: Allen Heidenreich, 6363 Athens-Boonesboro Road., Lexington, KY 40509; (606) 263-9841.

## LOUISIANA

**Bayou Brewers:** Contact: Bill Vollenweider, c/o 190 Specialities, 10553 Florida Blvd., Denham Springs, LA 70726; (504) 665-3226 and (504) 664-8034.

**Crescent City Homebrewers:** Club officers elected for 1989 are: President, George Parr; Vice President, Norman Crasson; Treasurer, Marci Kraus; Secretary, Mike Biggs. Contact: Mike Biggs, 1928 Metairie Hts., Metairie, LA 70001; (504) 833-6140.

## MAINE

**Belfast Area Brewers:** see listing under *New Clubs*.

**Seacoast Homebrewers:** October featured two brewery tours. First, a special tour of the D.L. Geary Brewing Co. in Portland. Samples of Geary's yeast were available to take home. Then, Seacoast Brewers enjoyed a special tour of the newly opened Gritty McDuff's in Portland. Contact: Seacoast Homebrewers Club, RD 3 - Box 149, Kennebunkport, ME 04046.

## MASSACHUSETTS

**Boston Wort Processors:** The club tasted brown ales in October, Oktoberfests in November, porters in December, holiday ales in January, pale ales and bitters in February, and Stouts in March. Ten Wort Processors helped judge and steward at the Western New England Fall Homebrew Competition Nov. 19 at Deerfield, Mass. Congratulations to Dave Ruggiero for winning the porter category and Bill Murphy for taking second in the novelty category.

New officers elected at the November meeting are Ron Vavruska, president; Linda Lane, vice president; Tom Ayres, secretary; Arnie Peterson, treasurer; and Steve Black, li-beer-ian. The club also selected a committee to organize a Wort-sponsored regional homebrew competition in January 1990.

A design for a new logo was presented at the December meeting by Tom Ayres. Opinion was very favorable. The club looks forward to the design's completion so it can be printed on T-shirts, mugs and coasters.

The Worts attended the grand opening of Gritty McDuff's, a new brewpub in Portland, Maine. The club made an overnight trip, also visiting Three-Dollar Dewey's, a renowned local watering hole in Brattleboro, Vt. Annual dues are \$10. Contact: Tom Ayres, 65 Langdon St., Apt. 6, Cambridge, MA 02138; (617) 354-4326.

**Valley Fermenters:** At the September meeting fellow Fermenter Richard Colton gave a talk on brewing practices of colonial times. Featured in the presentation were samples of beer that Richard had made following 17th century recipes and using colonial-era equipment. The taste of the beer was described as "on par" with today's brews. Also, an article by Richard appears in the November newsletter detailing the history and methods of brewing in Colonial New England.

At November's New England Regional Competition held in Deerfield, the Fermenters continued their reign as the top club in the region. This was thanks to John Korpita, who had three first-place and two second-place finishes; and Charlie Olchowski, who took a first, two seconds, and a third. Also, new member Mark Gryska had a first and Roger Kazakiewicz won a second.

Club officers for 1989 will remain the same as



'88, with the addition of Bruce Mosely as Vice President. Annual dues are \$10. Contact: Steven G. Budd, 482 W. Mountain Rd., Bernardston, MA 01337.

## MICHIGAN

**Ann Arbor Brewers Guild:** Correspondence from Bruce Gillett and Kathy Rybarz, members who recently moved to Maine, indicates that their reservations about moving so far away disappeared upon discovery of wild hops growing on their property! They are busy setting up a new club called Belfast (Maine) Area Brewers (see *New Clubs*). Upcoming meetings are March 16, April 17, May 18 and June 19. Dues are \$5. Contact: Rolf Wuchurer, 1404 White, Ann Arbor, MI 48104; (313) 663-8196.

**Brewers of Zymotic Omnivorous Suds (BOZOS):** Contact: Ann Tarr, 41 Holmdene N.E., Grand Rapids, MI 49503.

## MINNESOTA

**Northern Ale Stars Homebrewers Guild:** Club members and guests were treated to great hospitality at Leinenkugels. Annual dues are \$10. Contact: Don Hoag, 5320 Beartrap Rd., Saginaw, MN 55779; (218) 729-6302.

## MISSOURI

**Missouri Winemaking Society:** Contact: Bob Bubenik, 7314 Manchester, Maplewood, MO 63143.

**St. Louis Brews:** Congratulations to Jason Held, who won Best of Show at the HOPS competition in Philadelphia with an Oktoberfest. The same beer took first place in the first AHA Best of the Fest October seasonal beer competition. As the winner of the Best of the Fest Jason was flown to Boulder to consult with the Brewmaster of Boulder Brewing Co., which will make a brewery-size batch of his beer with his name on the bottles. Jason also took second place in the specialty beer category at the Dixie Cup competition with "one of his infamous smoke beers."

The Brews are busy preparing for their Brutopia/Homebrewers Alliance conference and competition, May 3-7. Special guests already confirmed include Paul Farnsworth, Charlie Papazian, George Fix, Karl Markl, Dave Miller and Ray Spangler. As part of the conference, a Judge Certification Exam will be May 6.

Dues are \$10 per year. Contact: John Standeven, 7314 Manchester, St. Louis, MO 63143.

## MONTANA

**Zoo City Zymurgists** held their Second Annual Oktoberfest Homebrew and Tasting Competition on Oct. 29 at Missoula's Northern Pacific brewpub. Contact: Dan Hall, 6520 Highway 10W, Missoula, MT 59802; (406) 549-9731.

## NEVADA

**Washoe Zephyr Zymurgists:** September's meeting featured a wine tasting. The Oktoberfest celebration was held at Eric McClary's Washoe Pines Ranch. The celebration also featured Eric's Oktoberfest beer, Anchor Steam and fine German-style sausages. At the December meeting brown ales—homebrewed and commercial—were enjoyed by all. Contact: Bill and Sue Marble, 11670 Fir, Reno, NV 89506; (702) 972-7438.

## NEW JERSEY

**Mid-Atlantic Sudsers and Hoppers (MASH):** Contact: Mark Bernick, PO Box 105, Flagtown, NJ 08821; (201) 534-9119.

## NEW MEXICO

**Dukes of Ale:** see listing under *New Clubs*.

## NEW YORK

**American Wine Society:** Contact: Angel Nardone, American Wine Society, 3006 Latta Rd., Rochester, NY 14612, (716) 225-7613.

**Amateur Brewers of Central New York:** Spring meetings will be: April 19, second annual gourmet beer evening featuring a dinner and a tasting; May 15, homebrew competition; June 19, planning for 1989-1990. Dues are \$15. Contact: Dick Goyer, 301 Wellington Rd., Dewitt, NY 13214.

**Broome County Fermenters Association:** Winners of December's contest for three styles of amber beers were Roger Haggett (pale ale) and Frank Haining (steam beer, Oktoberfest/Vienna). Frank's steam beer won Best of Show. Contact: Brice Feal, 2601 Grandview Pl., Endicott, NY 13760; (607) 724-5417.

**Long Island Brewers Association (LI-BATION):** Although a new club, most members have been brewing for many years. The club does not include elected officials. Meetings are on the second Tuesday of the month. Contact: W. Paul Markiewicz, PO Box 955, Sound Beach, NY 11789.

**New York City Homebrewers Guild:** The First NYC Homebrewers Guild Beer Competition Dec. 3 had 28 entries in three categories—pale/amber, brown and porter/stout/barley wine. Sal Pennacchio took first prize in all three categories, and his barley wine took best of show. Judging was done by Mark Witty of the Manhattan Brewing Co. and Phil Markowski, recognized judge from New Haven.

Roger Briss of Briess Malting Co. gave a speech at the September meeting on the commercial use of concentrated brewers' wort (his own brand of malt extract syrup specifically mashed for brewers), and generally encouraged all to start brewpubs in New York City. New officers were named: Garret Oliver, president; Morgan Wright, vice president; Peter La France, secretary; and Eileen Reilly, treasurer.

Nine members took a weekend trip in November to the Catamount Brewery in White River, Vt., and stopped off both nights for beers in Three-Dollar Dewey's Pub in Brattleboro, which offers Vermont's widest selection of world-class beers. Annual dues of \$10 per year include the magazine *The Written Wort*. Meetings are every second Tuesday. Contact: NYC Homebrewers Guild, Madison Square Station, PO Box 559, New York, NY 10159.

**Sultans of Swig:** Contact: Tim Herzog, 412 Lamarck Dr., Cheektowaga, NY 14225; (716) 837-7658.

**Troy Homebrewers Club:** Contact: Jay Hersh, PO Box 352, Troy, NY 12180; (518) 276-8047, days; or (518) 273-8559, evenings.

**Uptate New York Homebrewers Association:** The December meeting featured brewing gadgets and a question-and-answer session with veteran brewmaster Don Outtersen. Contact: Gary Bouchard, PO Box 23541, Rochester, NY 14692.

## NORTH CAROLINA

**Triangle Homebrewers League:** December was Oktoberfest month with Tim Ely, Mike Barrett and Quad Wheeler winning the judging. Quad won a copy of *zymurgy* for the best Oktoberfest beer brewed by a nonsubscriber. Plans for 1989 were discussed, including new experiments, commercial beer tastings and field trips. Pete Burrell, the head brewmaster at the Durham Weeping Radish Microbrewery, discussed brewing techniques at the January meeting. A field trip to the brewery is planned. Recent meetings included a porter brew-off, and the second THL Brewpicnic, held in May and September. Meetings are the first Wednesday of each month at Val's Upstairs in Durham. Annual dues are \$15. Contact: Mike Barrett, 4104 Toroella St., Durham, NC 27704; (919) 477-1495.

## OHIO

**Dayton Regional Amateur Fermentation Technologists (DRAFT):** Contact: Patrick Pickett, 109 Oakview Dr., Kettering, OH 45429, (513) 293-3019.

## OKLAHOMA

**Fellowship of Oklahoma Ale Makers (FOAM):** Beer of the Month schedule: April—bock; May—lager; June—pale ale; July—wheat beer. Contact: Bruce Lemmon, 2627 E. 14th St., Tulsa, OK 74104.

## OREGON

**Cascade Brewers Society:** Annual dues are \$10 and meetings are the second Monday of each month. Contact: Jim Stockton, 3120 Start St., Eugene, OR 97404.

**Heart of the Valley Homebrewers** received a \$100 gift as a thank-you for their participation in the Oregon Brewers Festival last July. Part of the money was spent on eight-ounce Pilsener glasses for future tastings. Contact: Pat McMullen, 341 S.W. Second, Corvallis, OR 97330.

**Oregon Brew Crew:** Jeff Frane's first place strong beer also took Best of Show at the Oregon State Fair Beer Competition. Congratulations! Annual dues are \$12. Contact: Jeff Frane, 3652 S.E. Yamhill, Portland, OR 97214; (503) 231-7620 (evenings) or (503) 238-4894 (days).

## PENNSYLVANIA

**Homebrewers of Philadelphia and Suburbs (HOPS):** HOPS members excelled last November at the Mid-Atlantic Regional Homebrew Competition. Bryant Belknap won first place in pale ales, Bill Keough's porter won first place in dark beers, and Richard Gleeson's strong ale finished first in the strong ale category. Andy Ross' sparkling mead was best of the meads; and the combination of Belknap, Davis and Letter won first place in the stout category. Contact: Dave Mela, 909 Madison Ave., Prospect Park, PA 19076.

**Happy Valley Homebrewers** are collecting recipes to enter in the May Bock Competition, determined to give the Brewmeisters a run for their money. Congratulations to Pat Hayes on her entry of Strawberry Mead, the club's one entry in the Mid-Atlantic Regional. She has sparked an interest in meadmaking in central Pennsylvania and several club members have made meads with good success. The membership drive is on, and recent meetings have had good response. Meetings are the third Sunday of each month, location varies. Annual dues are \$12. Contact: Pat Hayes, 311 S. Allen St., Suite 117, State College, PA 16801; (814) 466-6774 after 9 p.m.

**Three Rivers Alliance of Serious Homebrewers (TRASH)** held its second annual picnic at Boyce Park, near Pittsburgh, in August. More than 55 people tasted the many excellent homebrews brought by members. Tom Pastorius, owner of the Pennsylvania Brewing Co., supplied a keg of his Penn Pilsner for the participants. Thanks go to Rob Enrico, Mark Benson, Greg Walz, Ralph Colaizzi, Ron Zak and all the rest for helping make this event a success for the second year in a row.

The October meeting was held at Chiodo's Tavern in Homestead. The owners, Sam and Joe, provided the club with plenty of opportunities to compare homebrews with the best similar commercial beers.

At the November meeting at Rob Enrico's bakery in Jeanette, Pa., the club made a 10-gallon batch of Club Brew, offering the opportunity to participate in making beer with the club experts.

The December meeting was at the home of Al Panichella in Latrobe, Pa., and featured the installation of new officers for 1989: president, Rob Enrico; vice-president, Mark Benson; secretary, Greg Walz; treasurer, Ron Zak. It was decided to reimburse the host with a \$5-per-person contribution going to offset meeting expenses. A competition is scheduled for the March meeting, with the winner of the Bock category to represent the club at the AHA Bock is Best competition. The Club Beer made at the November meeting was enjoyed by all. Contact: Greg Walz, 3327 Allendorf St., Pittsburgh, PA 15204.



## SOUTH CAROLINA

**Alternative Brewers:** The third annual Oktoberfest was "quite a smash." Thanks to Jim and Cindy Carroll for hosting it. Contact: Alternative Brewers, 506 Liberty St., Rock Hill, SC 29370.

**Hopportunity:** Contact: Tom King, PO Box 71, Clemson, SC 29633, (803) 638-6331.

## TENNESSEE

**Hillbilly Hoppers Homebrew Club** informed us of an organization in Tennessee called TAP (Tennessee Association for Pubbreweries) that has begun efforts to enact changes in Tennessee law concerning brewpubs. Dues are \$12 per year. Contact: The Brewhaus, 4955 Ball Camp Pike, Knoxville, TN 37921, (615) 523-4615.

## TEXAS

**Amarillo Homebrewers:** Contact: Richard Deford, c/o North Texas Fermentables, 708 W. 16th, Amarillo, TX 79101, (806) 353-9461; or Jim Reese at (806) 359-3356 or 376-1861.

**Arlington Homebrewers:** Congratulations to Jim Wright, who won the specialty beer competition at the November meeting. Beer of the month schedule: April — microbrewery; May — amber; June — microbrewery; July — continental light/Pilsener. Contact: Herschel Gibbs, 3201 W. Division, Arlington, TX 76012, (817) 860-8430.

**Brew Maxx Homebrew Club:** see listing under *New Clubs*.

**Bock 'n' Ale-ians** recently came to terms with two strong local influences. One influence is Paul Farnsworth, the other is the weather. Paul is a brewer from Burton-on-Trent who is known to suffer a severe reaction at the mention of Munich malts. San Antonio's weather is characterized by nine months of summer, three weeks of fall, six weeks of mild winter and three weeks of spring. Given the weather and Paul's influence, members are concentrating brewing efforts on the more assertive ales.

The Ale-ians have no cause to regret their decision. At the '88 Dixie Cup they scored second in club quality points, swept the full-bodied pale ale category, got a second place in the strong ales and a third place in the No Commercial Comparison category. Meetings are the first Sunday of each month at Hill and Dales Ice House. Contact: Al Hymer, 1932 W. Huisache, San Antonio, TX 78201; (512) 734-8723.

**Cowtown Cappers:** Randy Buhler won first place in the eighth and ninth rounds of CC's Masterbrewer competition. Cy Martin's first place American light went on to take All-Grain and Overall Best of Show at the Dixie Cup competition in Houston! Rob Stenson won first place in the brown ales/milds at the Dixie Cup. Contact: Rob Stenson, c/o the Winemaker Shop, 3132 W. Seventh St., Fort Worth, TX 76107; (817) 877-1277.

**Foam Rangers** were big winners at the Dixie Cup. Mike Seidensticker won first place in the dry stout category and Steve Daniel won first place in the continental light/Pilsener and first place in the bock category. Steve's bock then garnered him Best of Show-Extract honors. The future of the Dixie Cup, however, is in limbo. Apparently a new interpretation of the Texas homebrew law has emerged from the state regulatory agency. Contact: Don Wilson, c/o DeFalco's Home Wine and Beer Supplies, 5611 Morningside Dr., Houston, TX 77005; (713) 523-8154.

**Malthoppers Beer Club:** Congratulations to Dave Zalewski for winning three first places at the Dixie Cup Competition — in the strong ales, light wheat beers and amber/dark wheat beers — and a second place in the dry stouts. Other Malthoppers recognized at the Dixie Cup for excellence in zymurgy were Pete Belley, Rodney Morris and John Melton. Contact: Lili Lyddon, PO Box 9560, College Station, TX 77840.

**North Texas Homebrewers Association** won the Fifth Annual Dixie Cup Homebrew Competition in Houston. The following members took ribbons: Rob Bristow, Russel Butler, David Guillebeau, Jess Haupt, Mike Leonard, James Morris, John Stuart and Cynthia Whittaker. The club planned to keep the Bluebonnet Brew-off Cup for a third year on Feb. 26.

Monthly meetings are loosely based around a chosen beer style, with a homebrewed beer, ingredients, recipes and discussions. Commercial comparisons usually are available. The monthly newsletters announce such activities as the Fourth Annual Christmas Party on Dec. 10. Annual dues are \$12. Meetings are every second Tuesday of the month at the Olla Podrida. Contact: Paul Seaward, 6008 Lovers Lane, Apt. 212, Dallas, TX 75206; (214) 369-1703.

## UTAH

**See No Evil Homebrewers Association:** see listing under *New Clubs*.

## VIRGINIA

**Brewers United for Real Potables (BURP):** BURP's September featured three big events. The first was a beer tasting at the Brickskeller featuring, as one person put it, the *real* Michael Jackson. Second, Bill and Doris McLaren, owners of the Cap & Cork homebrew supply business in Lexington Park, Md., hosted the annual crab feast. BURP provided two bushels of succulent Chesapeake Bay crabs. The third event was the establishment of BrewNet, the nation's first computer bulletin board dedicated to homebrewing and quality commercial beer. It can be accessed by dialing (703) 739-2739 (739-BREW).

In October, BURP celebrated Halloween with a weird beer contest, featuring strange brews and even stranger costumes at the home of Howard and Emily Michelsen. The contest was sponsored by Brew Masters of Rockville and was won by Tom McGonigle with his "Six Grain Ale" (made from barley, oats, wheat, rye, millet and triticale).

November featured a commercial tasting of dark and seasonal brews including a couple of early Christmas beers selected by Mark Weiner, zymurgist at Beros Liquors in D.C.

The year finished off nicely in December with a gala banquet at Col. Brooks Tavern in Washington, featuring guest speakers, door prizes, and nominations for the '89 BURP officer corps. Annual dues are \$12. Contact: John Gardiner, 7915 Charles Thomson Lane, Annandale, VA 22003; (703) 256-5716.

**Hampton Roads Brewing and Tasting Society:** The December meeting was held at the Virginia Brewing Co. (formerly Chesbay) and featured a talk by brewmaster Wolfgang Roth. The January meeting was the second annual British Isles Guided Beer Tasting, held at British Accent. The club meets the first Wednesday of each month. Contact: Ron Young, 2301 Kingsman Ln., Virginia Beach, VA 23456; (804) 427-5695.

## WEST VIRGINIA

**Laggards:** Contact: Tod Lewark, 1508 1/2 Buckannon Pike, Nutter Fort, WV 26301.

**West Virginia Maltainers:** A "religiously unorganized" club, the Maltainers have no officers or dues, but they do meet monthly at the Foxfire Restaurant in Morgantown, W.V. Contact: Jim Plitt, Stone's Throw, 171 Walnut St., Morgantown, WV; (304) 296-1960.

## WASHINGTON

**Brews Brothers:** Election results for 1989 find Bro Hardy as the new president and Bro Dale as treasurer. Contact: Craig Harris, 324 29th Ave. E., Seattle, WA 98112; (206) 329-2452.

**Fidalgo Island Brewers:** Dues are \$12 per year. Contact: Don Harper, 1218 27th Court, Anacortes, WA 98221; (206) 293-4278.

## WISCONSIN

**Bidal Society of Kenosha** will hold its third annual competition on April 23. The deadline for entering is April 20. Categories are 1) Light beers—(a) continental light, (b) weizenbier; 2) Amber beers—(a) pale ales, (b) steam beers, (c) amber lagers; 3) Brown beers—(a) brown ales, (b) continental dark, (c) bock; 4) Black beers—(a) porter, (b) stout; 5) Strong beers—(a) doppel bock, (b) strong ale, (c) barley wine; 6) Specialty beers; 7) Mead. All judges are welcome. Meetings are the third Thursday of the month. Dues are \$3 per month. Contact: Dennis Minikel, 5505 63rd St., Kenosha, WI 53142-3050; (414) 656-1871.

**Central Wisconsin Amateur Winemakers' Club:** Contact: Tom Bauer, 112 W. Fifth, Marshfield, WI 54449.

**Madison Homebrewers and Tasters Guild** hosted the Great Taste of the Midwest beer tasting, a benefit for the Sierra Club, in Madison last October. The tasting featured 50 different beers from 25 Midwest breweries. MH&TG meets Wednesdays at 8 pm at Gino's Cellar Bar, and the public is welcome. Contact: Steve Klafka, 141 N. Hancock, Madison, WI 53703; (608) 256-2107.

**Wisconsin Vintners' Association:** Contact: John Rauenbuehler, 6100 N. Kent, Whitefish Bay, WI 53217; (414) 964-2098.

## CANADA

**Amateur Winemakers of Ontario (AWO):** Subscription rates are \$6 per year for members of AWO and \$9 for non-members. Contact: Paul Jean Jr., AWO News, 28 Otten Drive, Nepean, Ontario, Canada K2J 1J2.

**Thunder Bay Home Brewer's Association:** see listing under *New Clubs*.

## AUSTRALIA

**Amateur Brewers Association-Victoria:** President Barry Hastings summed up 1988 as a very good year. Despite a decrease in meeting attendances, the club is better serving the members. They are now able to purchase higher quality ingredients and are providing these first class ingredients at very reasonable prices.

Meetings are the last Wednesday of each month. Annual subscriptions are \$10. Contact: Barry Hastings, 10 Aston Heath, Glen Waverly, Australia, 3150.

## NEW ZEALAND

**Auckland Guild of Winemakers and Brewers:** The October clubnight theme was "My Favorite Recipe/My Least Favorite Problem." Meetings are the fourth Wednesday of each month except December. Contact: David Whitehead, 6 Eaton Rd., Hillsborough, New Zealand.

**Far North Region Amateur Brewers and Vintners Club:** Contact: Donna Ward, c/o Post Office, Mangonui, New Zealand.

**Hamilton Brewers and Winemakers:** The club meets on the first Tuesday of each month at the Ruakura Research Centre in the Social Club Rooms. Contact: Barry Whiteley, 122 Fairview St., Hamilton, New Zealand.

**Hibiscus Amateur Winemakers and Brewers Guild:** August competition winners: Fred Vickers, sweet stout; Graeme Garton, dry stout. October results: John Kruse and Ron Middleton both won the gold for lager. November: Fred Vickers won the gold for light beer; Bruce Revell won the gold for dark beer.

Scheduled competitions for 1989: April — dry stout/sweet stout; May — light beer; June — lager; July — kit sweet stout. Meetings are the second Thursday of each month at the St. John Ambulance Hall in Silverdale. Contact: Ike Ansin, 13 Sundown Ave., Whangaparaoa, New Zealand.



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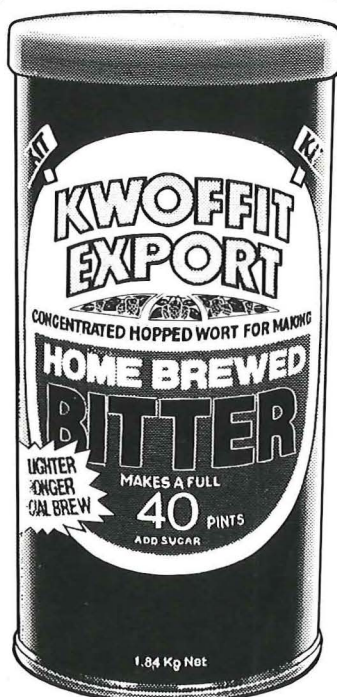
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