

# Zymurgy

FOR THE HOMEBREWER AND BEER LOVER

Vol. 13, No. 1  
Spring 1990

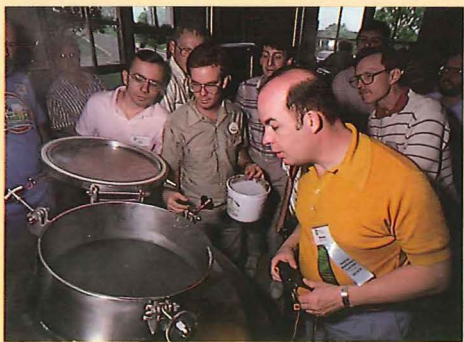
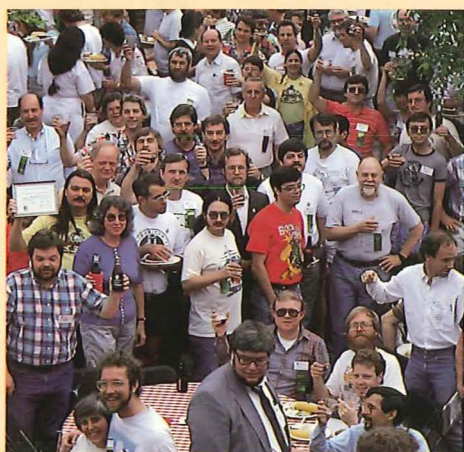
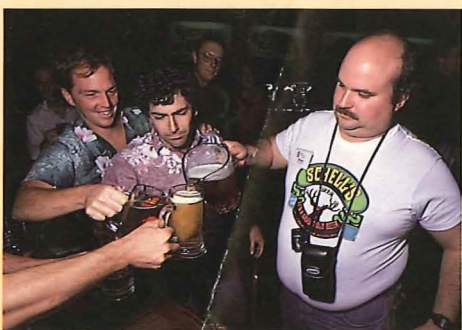
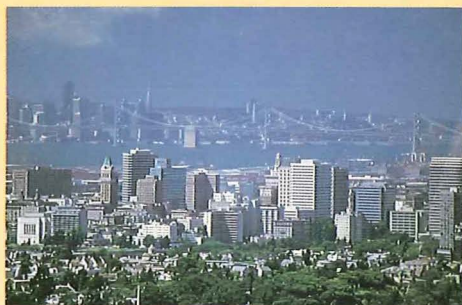
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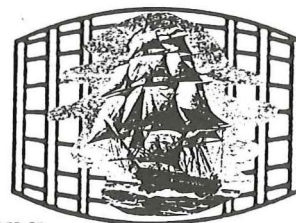
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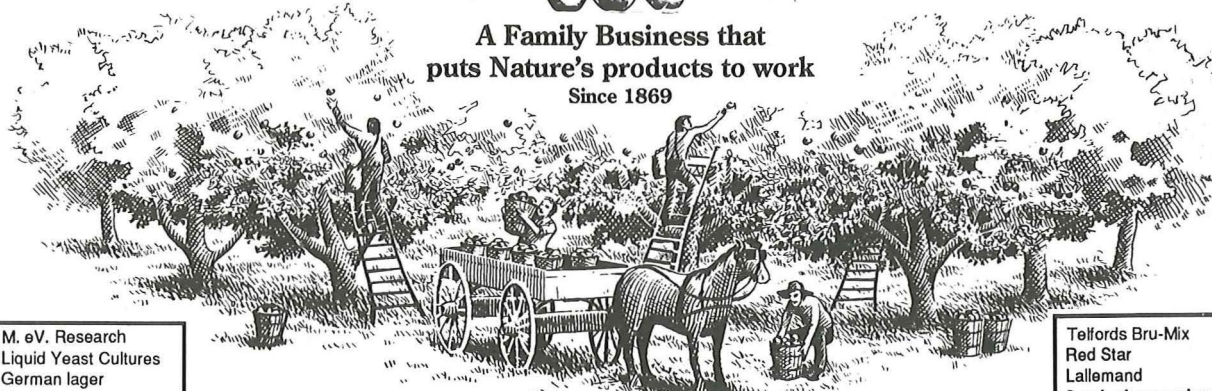
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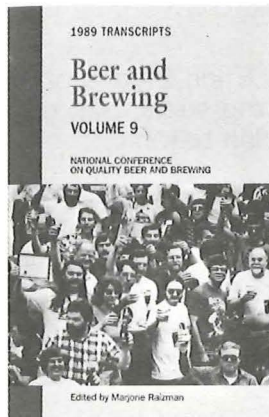
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— Cover: Hubert Fromm, Director of Kneitinger Brauerei, Regensburg, West Germany. Photo by Charlie Papazian. —



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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

## The Reasonable Majority or Homedrug Making and the Berlin Wall



Not too far from where I live there is a computer company engineer who *was* a homebrewer. His boss discovered his hobby and in persuasive terms suggested that such an avocation was unbecoming of a company employee and that he should stop such activity. The engineer sold his equipment and is no longer brewing beer.

On a brief vacation in the countryside of Colorado I was enjoying a beer. A boy of eight or nine years approached me and asked, "Hey mister, you gonna get drunk?" A junior high school student from Wisconsin wrote me asking for information to complete her social studies assignment: an essay titled, "Why Does Alcohol Continue to be an Accepted Form of Drug in American Culture?"

In Michigan a child came home with a worksheet. Question number three instructed: "Circle the following pictures that are drugs." There were several pictures including a hypodermic needle, a pile of powder, pills, milk and a bottle of beer. He got that question wrong because he failed to circle the bottle of beer.

Sen. Ted Kennedy recently introduced an amendment to the Drug-Free Schools and Communities Act, making reference to alcoholic beverages as a "gateway drug." Children are being taught that beer can lead to cocaine and crack. So now we may be considered homedrug makers.

In a contemplative mood, I imagined how great it must feel in Berlin these days. The Wall has been torn down. The Wall that tried to keep so many things hidden from an entire population. I read with uncomfortable amusement how pieces of the wall have been brought to this country as souvenirs. It seems to me that now another kind of wall is being built around us and our children. I have mixed feelings when children "learn" their parents are drug abusers for having an occasional beer. There is a lack of discrimination here that alarms me. Are objectivity and reality being distorted? Who is protecting whom? If walls are going to be built, then how

are our children going to react years from now when the walls inevitably are torn down?

I don't believe many people are noticing what's going on and what the consequences will be. Sometimes this interferes with enjoyment of my beer.

There is a battle being waged out there, but it doesn't seem that one ever hears from the people who make beer or enjoy it. We hear the beer industry's facts supporting their legitimacy: 187,000 brewing industry jobs and a payroll of \$1.3 billion, \$4.5 billion in taxes, \$860 million in rice, barley and hops, \$4.5 billion in glass, steel and aluminum. But really now, what is meaningful to the millions of individuals who responsibly enjoy the pleasures of a glass of beer? Whatever became of good old-fashioned quality of life, friendships, memorable meals, good times, an enthusiasm for enjoying life and respecting life with all of its titillations?

Whatever became of gut feelings? The arm you would wrap around your buddy? The laugh? The stuff that life and beer can be so much about? We're not all abusers. We're not all alcoholics.

Tell me, gang, are we a part of a reasonable majority or am I a minority? I'd like to enjoy my beer without feeling too unusual (somehow, I'd never feel criminal, even if they outlaw it).

About 20,000 people will read this editorial. My guess is that 95 percent of you make beer. You are brewers and have more respect for this stuff we call beer than the rest of the American population. You can have a major impact by helping inform others that beer can be respected and enjoyed. Be aware of what's going down. I'm a brewer, too. The celebration and enjoyment of beer should not be inhibited by ourselves; to do so would be defeatist. The joy is what we have going strongly for us. Our expressions of responsibility, enthusiasm and pride are what will make a difference. Let people know how you feel.

*(This editorial may be reprinted with credit and without permission.)*

# DEAR ZYMURGY

## OUR READERS

### Complete Rebuttal

Dear *zymurgy*,

I am the worst possible judge of the faults and merits of my book, but there are factual errors in Darryl Richman's review (*zymurgy*, Winter 1989, Vol. 12, No. 5) that should be challenged.

First, the title is not entirely mine. My editor added the word "complete" in order to emphasize the fact that the book covers the gamut from beginners' recipes to technical information on advanced, all-grain brewing. It was not intended to suggest that every possible option in the equipment or methodology is given equal consideration.

One can argue about how successfully I have covered this gamut, and several reviewers have done so. Darryl is the only one to misunderstand the title my editor chose. And contrary to his opinion, I do believe it. Otherwise I would not have agreed to it.

Dave Miller  
St. Louis, Missouri

### Homedrugs

Dear *zymurgy*,

Last week I spoke with a member of your staff (I forgot her name) and told her of our situation where the Drug Enforcement Administration seized over \$35,000 in garden supplies, deeming them "drug paraphernalia," along with our bank account, effectively bankrupting my company. We are no longer in business and unable to sell your *zymurgy* magazine.

An interesting note to this sad story is that Steinbarts in Portland,

Ore., said that government agents did the same thing during Prohibition to their company, claiming sugar and other legal commodities were used to make alcohol. Things don't change much in 50 years.

Sincerely,  
Tom Alexander  
Full Moon Farm Products  
Corvallis, Oregon

### Congrats

Dear *zymurgy*,

Congratulations on your wonderful yeast issue—it's going to be used to make some great beers! I'm constantly amazed at how, with a little time spent reading, today's first-time brewer can make world-class beers

right out of the chute.

Todd Hanson  
Sheboygan, Wis.

### Yeast Issues

Dear *zymurgy*,

There are some discrepancies in yeast analysis in the Special Yeast Issue of *zymurgy* 1989 (Vol. 12, No. 4).

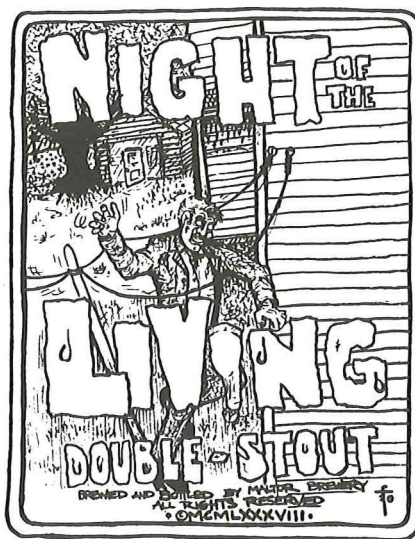
Regarding viability of liquid yeast in foil pouches, one article claims 90 percent dead in two weeks at room temperature. A second article and analysis reports 90 percent viable after similar transit time and temperature (highest of all yeast tested).

The article reporting 90 percent dead cells in two weeks claims 10 packages are required for five gallons of beer. This quantity would then, supposedly, be sufficient for optimum pitching, which would bring the quantity of live cells to the amount originally packaged, or equivalent to one package as reported by the other article. Of course, if in transit all died in three days;  $0 \times 10 = 0$ ? Perhaps a larger statistical sampling would have provided more accurate data.

We make every effort to ship fresh cultures, via rapid transit, request that retailers use cold storage and order small quantities to maintain fresh cultures. From customer reports we feel that we are shipping high viability cultures.

If brewers are concerned about the number of viable cells, we have suggested they prepare 10 times the volume of wort to step up the culture prior to pitching, not use 10 packages.

The article also claims Williams as the manufacturer of liquid yeast in



Thanks to P. Holman III of Pasadena, Calif., for this nightmarish homebrew label.

foil pouches. In fact, Wyeast Laboratories is the manufacturer.

David W. Logsdon  
Wyeast Laboratories  
Mt. Hood, Oregon

### No T.R.U.B.'les

Dear *zymurgy*,

Thank you for your assistance to so many homebrewers and quality beer aficionados! 'Twas a pity you were not able to attend T.R.U.B.'s 1989 Open Competition at the Weeping Radish brewery in Durham, N.C., last October. It was a great experience, with some wonderful beers.

Cheers!  
Doug Mackay  
Charlotte, N.C.

### Hopping for the Best

Dear *zymurgy*,

Last year was not a good summer on my backyard hop trellis. First came the early season insults of verticillium wilt and Japanese beetles, followed by the sudden (and destructive) late-season injury of downy mildew. That sorry summer prompts a few questions.

Standard remedies for hop verticillium wilt call for destroying the vines and abandoning the site. The former is possible (although painful), but the latter is essentially impossible for backyard growers, because I would guess that the beneficial effects of moving your trellis 75 feet are nil. Can you suggest any less draconian way of fighting verticillium wilt than moving to another state?

Japanese beetles can be partially controlled with pheromone traps; hand picking is a marginally effective

(and temporary) way of getting rid of those beetles that are either immune to, or locked in, love. A 1-percent rotenone spray seems to kill many of the beetles, and Bordeaux mixture apparently has some effect on downy mildew. Do you have any recommendations on whether and how such chemicals should be applied? Do you have any alternative suggestions?

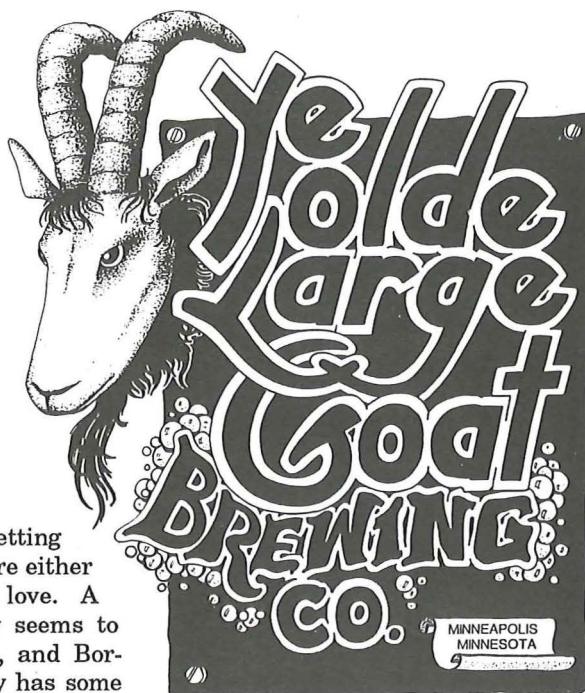
Finally, I suspect that a fair number of homebrewers are fighting the same good fight that I am. It would help me, and probably quite a few other *zymurgy* readers, if you could regularly (or at least annually) have a feature on hop growing. At least in my reading, detailed and comprehensive information hasn't been readily available on where to buy rhizomes, how to plan and plant a hop yard, how to fight off the critters, and when and how to harvest or store your hard-won produce. I think *zymurgy* would help expand homebrewers' and homebrewing's horizons if it regularly discussed these issues.

Sincerely,  
Raymond Lee  
State College, Pennsylvania

Dear Raymond,

*Verticillium wilt will occur in varying degrees of severity. If only part of the leaves die, then wait until next year and the infection may not be as bad. If the whole vine dies then you'd best give up on that variety. Resistant varieties include Bullion, Brewers Gold, Nugget and Perle.*

*As for the Japanese beetles, the 1-percent rotenone spray probably is a good solution but frequent applications may be necessary. At least you*



**Michael DeMarco of Hopkins, Minn., sent this label from a presumably aromatic brew.**

*don't have aphids.* [Editor's Note: Rotenone is organic, and can be found in Red Arrow™ insect spray.]

*Downy mildew germinates in water on the leaves. A safe, nonsystemic control is Cocide 101, which is a copper spray. Rain will wash off the copper, so it must be applied after each good rain. Disposing of any infected shoots and planting in a well-ventilated area helps.*

*I'm all for homebrewers growing hops but in some cases the cost and effort in producing a crop exceeds the cost of buying the small quantity of hops you would use in a year.*

Hoppily,  
Dave Willis  
Freshops  
Philomath, Oregon

### Lighten Up

Dear *zymurgy*,

I read the article by Michael Tierney, in *zymurgy* Fall 1989 (Vol. 12, No. 3), about green bottles vs. brown, and was very glad to know it's 520 nanometer light that causes the skunk to squirt. This should put to rest the popular myth that fluorescent light causes more damage than incandescent, because both forms of lighting have lots of 520 (green) light.

To shed some light on the subject,

but hopefully not 520 nanometers, it is impossible to tell the wavelength of light transmitted merely by the "color" of the bottle. All green bottles aren't the same. I am an optometrist, and one thing we understand is the human color vision system. Without going into details, the point is that the human eye is a great judge of "color" but a terrible judge of actual wavelengths—one bottle can appear to be exactly the same color as another, but transmits an entirely different set of wavelengths (spectrum).

A bottle can be green for one of

two reasons. It can transmit pure green light with a wavelength somewhere between 490 and 575 nanometers, or the light can consist of any combination of wavelengths that stimulate the eye the same way green light would, and fool it. For example, a hypothetical bottle can transmit blue light (440 to 490) and yellow light (575 to 590), and fool the eye and look green, even though it transmits *no green light*, and no 520, either!

To get to the point, the bottle must block out light of 520 nanometers to protect beer, and you can't tell

by the color. I've talked to a glass expert who tells me green glass is made by adding various amounts of oxides of chromium, copper, iron, nickel or aluminum, or by adding tints and dyes. All have different spectra. Some will block 520, some won't. Among brown bottles, it's the same deal.

Without doing spectral analysis on your bottle, you really can't be sure. It's safe to assume that some brewers do their homework when contracting for bottlemakers, and others go for cheap marketing ploys and don't check whether the bottle blocks 520. In either case, it is possible to make glass bottles of any color that block it, and only the brewers know for sure. That is, if they checked.

Sincerely,  
Morgan Wright  
Brattleboro, Vermont

### Lighten Up Again

Dear *zymurgy*,

I have some thoughts on the value of the judges' opinions and comments from the 11th AHA National Homebrewing Competition. In spite of the obvious subjectivity of expressing the perception of sensory stimuli, I found many of the comments pertinent and, in some cases, useful. However, one regarding bottle inspection bothered me. At first I decided to ignore it, but after talking with Ray Spangler and other local brewers (who also felt that the issue of bottle inspection appeared ill-defined and rather unfocused), I felt encouraged to write this.

A couple of judges' comments on the topic of bottle inspection were "*green bottle!*" as if this were something offensive. I suppose these discriminating judges would then scorn a bottle of Pilsner Urquell, Altemünster, Grolsch, Beck's and a myriad of other Pilsener-style beers, and may have even passed up the Lindemans Kriek and Old Foghorn served during Michael Jackson's luncheon. They all come in ... *green bottles!* Maybe Simpatico and its completely opaque bottle is the answer to their demanding criteria. Hopefully, no one was careless enough to offend them by offering a Tadcaster Porter in a colorless bottle.



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The point I am trying to make is that, as I understand it, the purpose of using tinted glass in beer bottles is to avoid interaction of hops and light that can lead to undesirable aromatics and off-flavors. Although this can occur rather rapidly under direct sunlight, it requires *prolonged* exposure to *very bright* artificial lighting, such as one would find on a supermarket shelf. I wouldn't expect bottles entered in an AHA-sponsored competition to be exposed to either of these adverse conditions, and certainly the brewer wouldn't treat his product like that either, making the whole issue a moot point.

So please tell these judges to lighten up a bit, relax, not worry and give that homebrew a chance.

Sincerely,  
Ronald Brubaker  
Cincinnati, Ohio

### "Best" is Best

Dear *zymurgy*,

I must send you this note. I think Colonel John's column in *zymurgy* is great. I use malt extract (kits, plain and dry) and specialty malts exclusively, and his reviews of various products are always timely and consistent with my "all-malt" convictions. I have even picked up back issues specifically for his reviews! Keep up the quality—his column is worth more than any other "beginner" column I have ever encountered in either *zymurgy* or *All About Beer*. Armed with Charlie Papazian's *Complete Joy of Home Brewing* and your reviews, I am making great homebrew!

Sincerely yours,  
Robert M. Schnick  
Augusta, Georgia

### Sudstistics

Dear *zymurgy*,

Thank you for providing numbers on the use of different brewing procedures at various levels of success in the national competition (1989 Special Issue, Vol. 12, No. 4, p. 64.). These limited data can be used to assess whether brewers using certain procedures constitute a statistically disproportionate share of the winners (relative to their share of the entrants).

I based probability calculations on a total of 69 winners (first, second and third places) in 23 categories (21 beer and ale plus two mead) for both fermentation vessel type and number of fermentation stages, and 63 winners for grain source (does not apply to mead). The presumption ("null hypothesis") was that if a procedure were used by a given percentage of entrants, it would be used by a similar percentage of winners. Using a reasonable criterion for statistical significance (at least 90 percent probability that the observed difference in

proportion of winners *vs.* entrants would not occur by chance), this simplified analysis provided the following results:

(1) All-grain entries *tended* to comprise a greater proportion of winners than would be expected by chance (just failing to reach statistical significance). However, both extract and extract plus mash entries appeared as winners at expected (i.e., chance) levels.

(2) Relative to chance, fermentations in glass were significantly more likely and fermentations in plastic

## The California Dreaming Fun

### The AHA National Homebrew Conference

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breakfast beers, homebrew swaps, round table talks. It couldn't be any better than these three days of friends getting together to talk and share beers. Three days of great fun.

June 13-16, 1990  
Oakland, Calif.

For more information about the conference and how you can participate, write or call the American Homebrewers Association, PO Box 287, Boulder, Colo., 80306-0287, (303) 447-0816.



# FREE FROM THE AHA!

Circle only the items you want.

## How-tos

- 942 How to Teach a Homebrew Class\*
- 943 How to Start a Homebrew Club
- 944 Editorial and Photo Guidelines for submissions to *zymurgy*
- 946 Outline for Intermediate Brewing

\* Contact the AHA for free informative handouts for your students.  
(303) 447-0816

## Lists

- 937 Additives allowed in beers commercially brewed in the U.S.
- 938 Wholesale distributors for those retailing homebrew supplies
- 939 Homebrew clubs in Canada, New Zealand, Australia and the U.S.
- 940 Beer-related magazines, newspapers, journals, newsletters
- 941 Micros and brewpubs in the United States with city and state

## Especially for the Beginner

- 945 How to Brew Your First Batch of Beer
- 947 How to Use Specialty Malts, with Malt Extract Conversions
- 948 The Zymurgist's Guide to Hops

## General Information

- 931 An Introduction to the American Homebrewers Association
- 932 *zymurgy* Mini-Index 1978-1989
- 933 *The New Brewer* magazine Index 1983-1989
- 934 *The Beer Enthusiast Catalog*  
*A catalog of beer books, T-shirts, glassware and fun things.*
- 935 Introductory CompuServe Information Service kit (members only)  
*Includes free subscription and \$15 worth of time on the AHA's beer forums.*
- 936 Application and info for the AHA's Sanctioned Competition Program
- bjc The Beer Judge Certification Program Booklet

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

- AHA members: It's all free to you but you must enclose 50 cents for each item to cover postage and handling costs. Circle only those items you want.
- Nonmembers of the AHA: Please submit \$1 (\$2 minimum) for each item requested. All foreign overseas airmail requests enclose \$3 extra for postage.

Direct inquiries to: AHA Member Services, Box 287, Boulder, CO 80306-0287 USA.

Name \_\_\_\_\_ Phone \_\_\_\_\_

Address \_\_\_\_\_

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## ALSO AVAILABLE FROM THE AHA

**Helpful Information for the First-Time Brewer.** Relax, Don't Worry, and have Your Own Homebrew with the help of these guidelines, charts and articles. It's a hefty package, so please enclose \$2 (\$5 for nonmembers) for postage and handling.

☐ Please send me the Beginner's Package. Enclosed is a check for \$2 (\$5 for nonmembers).

Total Enclosed \_\_\_\_\_

F131

less likely to be among the winners. The few winning steel fermentations were within the range of chance.

(3) Both one-stage and two-stage fermentations appear as winners at chance levels.

These analyses only deal with the numbers provided and do not, of course, address the reasons why differences might exist. It is possible that all-grain and glass-fermentation procedures really do result in better quality, but it is also likely that beers made with these procedures (and two-stage fermentations) are submitted by relatively more advanced brewers. Plastic buckets in particular are part of beginner kits and instructions, and would seem much more likely to be employed by novice competitors. Data on years of experience among users of each procedure at each level of success would allow some correction for this source of bias. (I personally maintain, for example, that an experienced homebrewer working with a good extract source can make many styles of beer equal in quality to all-grain.)

In the future, it might be interesting to actually tabulate data on brewing experience, procedures, equipment choices and judges' scores for each brewer in a large competition. Armed with this information, it would be possible to make more educated statements about the impact of these different factors on competition success and, by inference, the quality of homebrewed beers. I strongly suspect that this would demonstrate that the technical capabilities of individual brewers remain the most important overall factor.

Sincerely,  
David J. Mela, Ph.D.  
Prospect Park, Pennsylvania

## Brew-Ha-Ha

Dear *zymurgy*,

My friends all laughed when I told them my new hobby was brewing beer. When we cracked open the first batch there was nothing but cheers!

Thanks for *all* the help and encouragement.

Sincerely yours,  
Joseph Wm. Mihalko  
Whippany, New Jersey

# ASSOCIATION NEWS

## Computerized Ordering Will Increase Efficiency

In November 1989, the AHA added a computerized ordering system dedicated to the handling of merchandise orders and information requests. The new system will help increase efficiency, allowing faster turnaround between the time the order is placed and the time it is shipped out. We appreciate our customers' patience with any inconveniences that may have occurred during the system's break-in period, but we are confident that the efficiency gained is worth it.

## There's No Place Like Home

Over the past few years the AHA has grown considerably and, consequently, so has the staff. In the recent past about 18 staff members were jammed into the 2,400 square feet of space that was adequate for our staff a few years ago. For the past year the AHA looked for a larger office, to no avail. As it turns out, we had to look no further than our own building! In addition to the second floor we currently occupy at 734 Pearl St. in Boulder, the AHA has expanded to include the first floor as well. We now have twice as much space, a little bit of breathing room and some room to grow. Drop by for a visit and browse through our library.

## Celebrating National Homebrew Day (May 5)

A special first-round judging for the 1990 AHA National Homebrew Competition will take place over National Homebrew Weekend, May 4 to 6, in Boulder, Colo. In honor of these two very special events, we are inviting any and all judges to come to Boulder for the weekend to help with the first-round judging. A "Beds for Brewers" program is already in the works for those who need a place to stay. A party in honor of the participating judges will be Saturday evening. Anyone interested should contact Anne Blake, AHA, PO Box 287, Boulder, CO 80306-0827.

## Breweries Sponsor Prizes

Gear up your brewing system and get ready for this. The AHA is happy to announce some very special prizes for certain classes of the 12th Annual National Homebrew Competition!

For the first-place winner of the barley wine category, round-trip travel to Young & Company's Ramrod Brewery in London, England, will be provided so he or she may participate in brewing a batch of Old Nick's Barley Wine Style Ale. The first-place winner in the Bock category will be flown to Drammen, Norway, to participate in brewing a batch of Aass Bock Beer at the Aass Brewery.

Other categories may be spon-

sored by both European and North American Breweries as well, but details were not available at press time. Get excited and get brewin'!

## 1990 Conference Tunes Up for Oakland, Calif.

The speakers are all lined up. The beer's being brewed. The bridge is fixed and California homebrewers are getting jazzed about hosting what could be the biggest homebrew event in the history of the world, June 13 to 16.

California homebrew clubs assure us there will be no shortage of homebrew to sample. All of the breweries in the San Francisco Bay area have been asked to prepare for thirsty beer enthusiasts.

Look elsewhere in this issue for details. Be sure to register right away to take advantage of early discounts and to let us know you're coming. We'll see you there!

## National Beer Judge Certification Program

Over the past several months, quite a bit of time has been spent on transferring the BJCP personal files from a small, outdated, six-year-old system to a larger, more efficient Macintosh system. The new system has a greater capacity for information and updates, is easily expandable and works much faster. Personal files can now be expanded to record a larger number of competitions.

# EDME

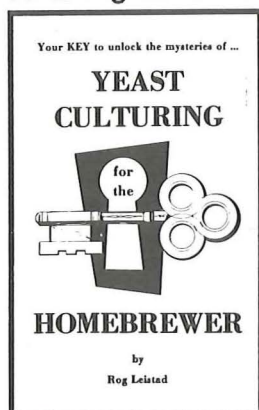
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If you have received a copy of your personal judging record that you believe is incorrect, write to: BJCP Administrator, Anne Blake, at PO Box 287, Boulder, CO 80306-0287.

## AHA Offers Service to Beer Judge Certification Participants

The AHA recently introduced a new package to participants who want more contact with the BJCP. Four times per year, all those who are interested can receive the most recent copy of their personal judging record, new information about coming sanctioned competitions and certification exams and any other news that might be of interest. For more information, contact the AHA.

## Homebrew Teachers' Free Material

The American Homebrewers Association will provide free materials for teachers of homebrew classes. Packages include useful tips, charts and tables, membership applications at a 15 percent discount, and more. For more information, contact Anne Blake, at PO Box 287, Boulder, CO 80306-0287, or call (303) 447-0816.

## CompuServe Conferences and News Now Weekly

Weekly beer and wine conferences are coming to the AHA-administered beer forum on the CompuServe Information Network. They are scheduled for every Wednesday at 7:30 p.m. MST. Normally there is no set subject for the hour-long meeting. Individuals come with questions and/or ideas they would like to discuss. Occasionally on-line homebrew and commercial beer tastings are scheduled during the meeting time. Notice of the homebrew tasting and the recipe to be brewed is given roughly two months prior to the event in order to allow ample time for everyone to brew. In January, a commercial Belgian beer tasting was held and was great fun for all involved.

Because of increased interest in beer-related news, a new area, Wine and Beer Industry News, is in the works. This area will contain articles of interest on beer and wine taken

from the Associated Press wires as well as from CompuServe participants. For a free CompuServe starter kit and more information, contact Dan Fink at the AHA (303) 447-0816.

## New Display Stands for Supply Shops Available

With the generous assistance of Premier Malt Products, Munton & Fison and California Concentrates Malt Extracts, the American Homebrewers Association has produced and made available, free of charge, a counter-top display stand for distribution to homebrew supply shops. This stand offers free seasonal recipes and information about joining the AHA. Look for them at your local homebrew retail shop.

## 1990 *zymurgy* Special Hop Issue

The 1990 *zymurgy* Special Issue will be devoted to the subject of hops. We're planning a magazine packed with all the information you'd ever want to know about hops. This issue will be out in early November.

We're looking for beer and brewing enthusiasts, professional and amateur, to contribute articles. If you have ideas, experiences, special procedures, recipes, equipment or knowledge about hops and would like to participate, contact Associate Editor Laura Allbritten, *zymurgy*, PO Box 287, Boulder, CO 80306-0287 or phone (303) 447-0816. Article deadline is June 1.

The following subjects are looking for authors: growing hops; measuring and analyzing hops; recipes, recipes, and more recipes for most varieties of hops; charts and tables; news on experimental hops; the making and use of hop oils and extracts; dry-hopping procedures; and the pros and cons of aging hops.

## *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 Associate Editor Laura Allbritten, *zymurgy*, PO Box 287, Boulder, CO 80306-0287.

# BREW NEWS

MIKE SANDROCK

## Pass the Beer and Cheerios

A glass of beer or wine may help in keeping the body's insulin levels in line, according to the U.S. Department of Agriculture. A departmental survey said that a high-sugar, high-starch diet can rob the body of chromium, which can in turn cause an increase in insulin production. A high level of insulin in the blood can be an early-warning sign of diabetes, the study stated.

Beer and wine, as well as some breakfast cereals, are good sources of chromium, which helps keep insulin levels in check by making insulin more efficient at regulating blood sugar levels. Because it is difficult to obtain chromium, people are urged to conserve chromium in the body by avoiding high-sugar foods.

We've always suspected that a beer a day kept the doctor away.

## Basketball and Beer

The alcohol beverage industry suffered a setback when the contract awarded to CBS to televise college basketball cut the maximum time allotted for beer commercials to 60 seconds each hour from 90 seconds. Some observers fear it may lead to further restrictions, according to the *New York Times*.

The National Collegiate Athletic Association initially wanted to either ban beer commercials or limit them to spots that urge drinkers to practice moderation. But the NCAA relented after negotiations with several beer companies.

CBS, which paid \$1 billion for the rights to broadcast the NCAA tournament for the next seven years, said it can recoup the lost beer advertising revenue from other sources. Susan Henderson, a spokeswoman from Miller Brewing Co., said, "We think this is inappropriate and sets an extremely dangerous precedent. This could spread to regular-season basketball games and to other sports."

## Stale Stroh's

Some cans of old Stroh's beer were passed off as fresh beer in an attempt to dispose of out-of-date stock, according to a copyrighted article in the *Denver Post*. A *Post* re-

porter found beer that should have been pulled from the shelves seven months earlier. The beer was so old that it was sold in a style of Stroh's cans no longer used. The distributing company responsible had its liquor licenses revoked after the Colorado Department of Revenue found the company had also sold full-strength Pabst beer as 3.2 beer. A Stroh's spokeswoman said the beer stays fresh for 90 days after brewing, and even longer if kept cool.

## Thomas Hardy Saluted by Stroh's

The Stroh Brewery ran a radio campaign last summer that com-



**Winning brewers of the Professional Panel Blind Tasting at the 1989 Great American Beer Festival.**

## Micro and Pabbreweries

### United States

#### Openings

Crazy Ed's Black Mountain Brewing Co.—Cave Creek, Ariz.

Pendleton's Brewpub—Phoenix, Ariz.

San Francisco Bar and Grill Brewpub—Tuscon, Ariz.

Heritage Brewing Co.—Dana Point, Calif.

Lind Brewing Co.—San Leandro, Calif.

Sherwood Brewing Co.—Chico, Calif.

Sierra Nevada Taproom—Chico, Calif.

CooperSmith's Pub and Brewing—Ft. Collins, Colo.

Odell Brewing Co.—Ft. Collins, Colo.

New Haven Brewing Co.—New Haven, Conn.

Hops Grill & Brewery—Clearwater, Fla.

Sarasota Brewing Co.—Sarasota, Fla.

Tampa Bay Brewing Co.—Tampa, Fla.

Baltimore Brewing Co.—Baltimore, Md.

Wild Goose Brewing Co.—Cambridge, Md.

Boulevard Brewing Co.—Kansas City, Mo.

The Mountain Brewers Inc.—Bridgewater, Vt.

Pike Place Brewery—Seattle, Wash.

#### Reopenings

Central Coast Brewing Co.—San Luis Obispo, Calif.  
(previously Local Brewing Co.)

#### Closings

City of Angels Brewing Co.—Santa Monica, Calif.

Tri-City Brewing Co.—Kennewick, Wash.

### Canada

#### Openings

Whistler Brewing Co.—Whistler, British Columbia, Canada

Fat Tuesday's—Moncton, New Brunswick, Canada

Denison's Brewing Co./Growler's Restaurant—

Toronto, Ontario, Canada

Marconi's Brewpub—Etobicoke, Ontario, Canada

Mash McCann's—London, Ontario, Canada

Union Station Brewpub—Markham, Ontario, Canada

Brasal Brasserie Allemande—Lasalle, Quebec, Canada

La Brasserie Port Neuvoise—St. Casimir, Quebec, Canada

#### Closings

Canadian Heritage Brewing Co.—Richmond, British Columbia, Canada

Highland Breweries—Sydney, Nova Scotia, Canada

pared the beer to Thomas Hardy's, which it termed "the rarest ale in Britain." The radio spots, produced by Hal Riney & Partners, were designed to tell people about the uniqueness of Stroh's by comparing it to some of the special beers around the world. The script for the ad campaign, called "Beers of the World, British Isles," says of Thomas Hardy's: "Any beer that is best stored for five years before drinking does seem to be a bit on the unusual side. And the fact that it not only lasts, but actually improves for 25 years in the bottle, makes it even more so."

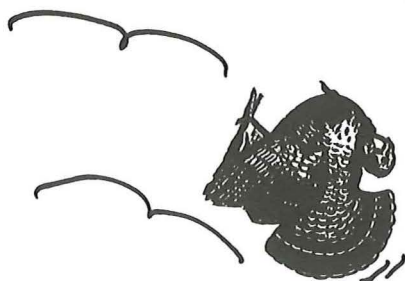
### Fowl Bowling

Some innovative supermarket workers have come up with a new use for the mascot of the American Homebrewers Association. To keep from getting bored, some overnight shelf-stockers in a Newport Beach, Calif., supermarket several years ago started "Turkey Bowling." It seems the crew tries to knock down two-liter bottles of soda by rolling a frozen turkey across the linoleum floor. Men use a 10- to 16-pound turkey, accord-

ing to an article in the *Chicago Tribune*, while women and children roll rock cornish game hens at one-liter bottles. "This is the only sport I know where you can eat the equipment afterwards," turkey-bowling founder Derrick Johnson said.

### World's Top Beer Drinkers

Commercial beer is losing its appeal in the health-conscious West, but consumption rose 22 percent in Asian countries, according to a story in the *Chicago Tribune*. And West Germans remain the world's top beer drinkers, downing an average of 252 pints per year per person in 1988. United States consumption was 156 pints per person in 1988.



### A Non-Alcoholic Beer that Tastes Like Beer

Miller Brewing Co. unveiled Sharps in October, a nonalcoholic beer that was expected to be available nationwide in January. Miller said it developed a new brewing process called "Ever-Cool" that allows Sharps to keep the taste of regular beer. Miller expects strong growth in the nonalcoholic segment of the beer industry.

### Congressional Appeal

Warning labels are now required on all alcoholic beverages bottled after Nov. 18, 1989, but some people are saying the warning language needs

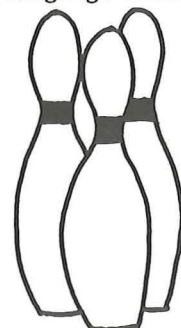


Illustration by Laura Albritten

improvement. A new advocacy group called Citizens for Moderation recently formed to represent the interests of the roughly 120 million American who drink responsibly and in good health. The group's first goal is to modify the warning language, which they say is a political statement and not a reasoned public health statement. The group wants to add to the warning label the words "Excessive drinking can harm a fetus," and "Moderate drinking may add to the well-being of the user. Consult your physician."

### Coors Wins Suit

The Adolph Coors Co. has won a lawsuit enabling it to list the alcohol content on its beer. The suit, filed in 1987 against the U.S. Secretary of the Treasury and the Bureau of Alcohol, Tobacco and Firearms, challenged a federal act that prohibits beer manufacturers from stating alcohol content. The basis of the suit was that First Amendment rights of commercial speech were being denied to beer-makers.

"We feel very strongly that this ought to be an industry-wide effort," Coors spokesman Neal Peters said. "We think it's the consumers' right to know the alcohol content of what they are drinking." Coors wants Congress to make that information required of all brewers, but an Anheuser-Busch spokesman said listing the alcohol content "could be confusing for consumers because of different ways of computing it, such as by weight or volume."

### Anti Anti-Alcohol Group Forms

A new group called the Adult Beverage Industries Council, comprised of representatives of every trade association in the wine, spirits, and beer industries, has formed to present a united front against anti-alcohol forces. The organization has open membership and no dues, and will assess the "increasing anti-product and anti-industry stories in the news media," and the "publicity associating alcoholic beverages with illegal drugs and dangerous narcotics," according to *Market Watch* magazine.

### Maytag Named Honoree

Fritz Maytag, owner of the Anchor Brewing Co. of San Francisco, was named an honoree in the Sixth Annual Who's Who of Cooking in America Awards. Maytag was saluted for showing "that a local beer can go national while still remaining small and maintaining high standards," according to a report in "*Suds and Stuff*," the newsletter of Beer Drinkers International.

Maytag took over the Anchor Brewing Co. when it was on the verge

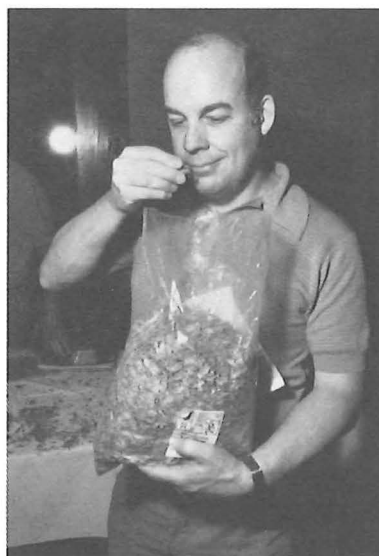
of closing in 1965, and during the past 20 years he has become known as one of the top brewmasters in the nation.

### Brewing OK in the Neighborhood

A Chico, Calif., man has been granted approval to put a microbrewery in his house. Peter Allison will not have any paid employees at his operation, which will be conducted in a 720-square-foot building on his residential lot, according to an article in the *Chico Enterprise-Record*. Allison

## The California Dreaming Instruction

### The AHA National Homebrew Conference



The writers of the books, the producers of the malt, the growers of the hops, the award winners, the top retailers, the club leaders. More thinking and talking on homebrew than you can imagine. Learn what you always wanted to. Three days of great instruction.



June 13-16, 1990  
Oakland, Calif.

For more information about the conference and how you can participate, write or call the American Homebrewers Association, PO Box 287, Boulder, Colo., 80306-0287, (303) 447-0816.

will deliver the kegs of beer to local businesses in his pickup truck.

"He ought to be able to start out ... later he may have to consider relocating in a commercial zone," said a county official. (Thanks to the Shasta County Suds'ers for this item.)

### Heileman Accord

The G. Heileman Brewing Co. reached an agreement with its creditors that gives the firm until June to rebound from a decline in market

share and sales. According to an Associated Press story, Heileman was given a waiver on its loans from U.S. and Canadian banks. Company President Murray Cutbush said the agreements will allow the brewer to realize benefits from capital improvement spending and marketing. Cutbush said that while the firm's 1989 performance was less than satisfactory, price increase, marketing and capital expenditures made during the year were for the long term and not for one year. Heileman said its over-

head should be reduced by the closing of three breweries.

### Canadian Beer

Domestic beer sales in Canada declined slightly in 1988, according to a story in Canada's *What's Brewing*. But beer imports grew by 25 percent to claim 2.6 percent of the Canadian national beer market. Imported beers made the greatest inroads in Alberta and British Columbia, while in Quebec they have been limited to only one-half of 1 percent of the mar-

## CALENDAR OF EVENTS

<b>1990</b>		<b>May 5</b>	<b>Bock is Best. AHA Sanctioned Club-Only Competition.</b> Entry deadline is April 30, 1990. Contact Anne Blake AHA, (303) 447-0816 for details.
March 24	BJCP Exam, Woodland Hills, Calif. Contact Marty Velas (818) 886-7564 or (213) 329-8881.		
March 29-31	Homebrewers Alliance Bluebonnet Conference and Competition, Plano, Texas. AHA and HWBTA Sanctioned Competition. Contact Mike Leonard at (214) 234-4411.	June 13	Final round of judging for the <b>AHA National Homebrew Competition</b> , Oakland, Calif.
April 7	Arizona Homebrew Competition, Phoenix, Ariz. <b>AHA Sanctioned Competition.</b> Entries due March 31. Contact Harold Gee at (602) 834-3974.	June 13-16	AHA 12th Annual National Homebrewers Conference, Oakland, Calif. Contact the AHA at (303) 447-0816.
April 22	Kenosha Bidal Society Regional, Kenosha, Wis. HWBTA Sanctioned Competition. Entry deadline is April 13. Contact Brian North at (414) 761-1018.	July 14	KQED International Beer and Food Festival, Concourse Exhibition Center, San Francisco, Calif. Call (415) 553-2200 for more information.
April 24	Entry deadline for the AHA National Homebrew Competition.	July 21	Santa Clara County Fair Homebrew Competition, Santa Clara County Fairgrounds, San Jose, Calif. <b>AHA Sanctioned Competition.</b> Registration deadline June 25. Open to residents of South Bay counties only. Contact Robert Hight at (408) 247-6853.
April 28	Maltose Falcons 1990 Mayfaire Regional Homebrew Competition, Woodland Hills, Calif. <b>AHA Sanctioned Competition.</b> Entry deadline is April 21. Contact R. Bruce Prochal at (818) 504-9400.	July 21-22	Oregon Brewers Festival, Waterfront Park, Portland, Ore. For details contact Widmer Brewing Co. at (503) 227-7276 or Bridgeport Brewing Co. at (503) 241-7179.
April 28	Upstate New York Homebrewers Association 12th Annual Contest, Rochester, N.Y. <b>AHA Sanctioned Competition.</b> Entry deadline April 21. Contact Stephen Hodos at (716) 272-1108 or 272-3465.	Aug. 3	The Alamo Cup, San Antonio, Texas. HWBTA Sanctioned Competition. Contact Phillip Manna at (512) 697-9521 for details.
April 28	Big and Huge Hearted, Madison, Wis. <b>AHA Sanctioned Competition.</b> Entries due that day. Contact Scott Wollschlager at (608) 255-1684.	August 4	Weiss is Nice. <b>AHA Sanctioned Club-Only Competition.</b> Entry deadline is July 27. Contact Anne Blake at the AHA, (303) 447-0816.
May 3-5	HWBTA Conference, Reno, Nev. Contact Nancy Vineyard at (707) 544-2520.	Aug. 27-30	National Microbrewers Conference, Denver, Colo. Contact the Institute for Brewing Studies at (303) 447-0816 for tour itinerary.
May 4	BJCP Exam, Reno, Nev. Contact Byron Burch at (707) 544-2520 or Pat Baker at (203) 227-8028.	Nov. 2-3	Great American Beer Festival, Denver, Colo. Contact Daniel Bradford at (303) 447-0816.
May 4,5	AHA National Competition Judging Invitational. Boulder, Colo. Contact Anne Blake at (303) 447-0816.	Nov. 10	Best of the Fest. <b>AHA Sanctioned Club-Only Competition.</b> Entry deadline is Nov. 2. Contact Anne Blake at the AHA, (303) 447-0816.
May 5	National Homebrew Day		

People wishing to list events should send the information to *zymurgy* Calendar of Events, PO Box 287, Boulder, CO 80306-0827.

Notes to competition organizers: The AHA must receive written confirmation that a competition has been sanctioned by the HWBTA from Pat Baker, Sanctioned Competition Program codirector, before announcing the event in *zymurgy*. Competition organizers wishing to apply for AHA sanctioning must now do so at least two months before the event.

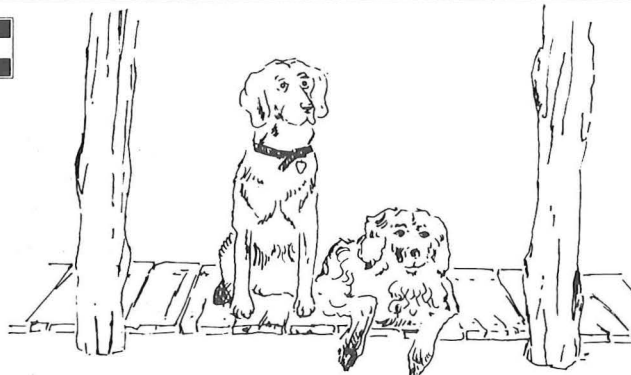
ket. The most popular beer style in Canada continues to be lager, with 57 percent of the market. Consumption of ale (30 percent) continues to decline, while the market share of light beer grew to 13 percent.

### Midwest Brewer of the Year

A brewer of the year award is given to the Midwestern homebrewer who demonstrates "outstanding and consistent brewing skills," based on performance in the following regional homebrew competitions:

- Kansas City Bier Meister (Feb.)
- Kenosha Bidal Society (March)
- Wisconsin State Fair (July)
- Hop Barley & the Ale'ers (Nov.)
- St. Louis Brews (Dec.)

For more information call Alberta Rager, (913) 236-5953, or Dave Norton, (414) 694-7591.



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## AHA Sanctioned Competitions

### Santa Cruz County Fair

There were 67 entries in the Sept. 9 homebrew competition at the Santa Cruz County Fair. First-place winners and their categories included: Pale Ale, Light Lager and Steam Beer, Andy Carter of Watsonville, Calif.; Dark Lager and Stout, Brian O'Donnell and Kevin Brady of San Jose; Wheat Beer and Porter, Robert Wynn of Felton, Calif.; Specialty, Larry Lynch-Freshner of Felton.

### Santa Clara County Fair

The Santa Clara County Fair had 165 entries in its homebrew competition in July. The best-of-show winner was Brian O'Donnell of San Jose, Calif.

First-place winners and their categories included: American Pilsner, Martin Grove Jr., Redwood City, Calif.; Continental Light Lager, Jim Bramlett, Menlo Park, Calif.; Light Ale, Michael Beaman, Union City, Calif.; Pale Ale and Continental Dark Lager, Jill Hambleton, San Jose; Chimay Red, Russel L. Pencin, Mountain View, Calif.; Oktoberfest, Märzen

Beer, Vienna Style Lager, Llewellyn Lee and Michael Grone, Mountain View; Steam Style Beer and Strong Beer, Brian O'Donnell, San Jose; Brown Ale, Gregor Nelson, Palo Alto, Calif.; Bock and Doppelbock, Mike Chrisman and Steve Springer, Los Gatos, Calif.; Porter, David L. Smith, Sunnyvale, Calif.; Dry Stout, Keith Smock, Boulder Creek, Calif.; Wheat Beer, Raymond Iburg, San Jose; Specialty Beer, Joseph R. Ricci, San Jose.

### First Annual Reggale and Dredhop Homebrew and Mead Competition

Phil Fleming and Bill Hasse of Broomfield, Colo., won best of show for their Amber Beer, called "Bad Bill's Hurricane Oktoberfest" in the First Annual Reggale and Dredhop Homebrew and Mead Competition. Other winners and their categories included: Light, DeWaine Hughes of Boise, Idaho; Dark, Mark Kenney and Ed Smith of Longmont, Colo.; Black, Phil Rahn of St. Peters, Mo.; Specialty, Phil Fleming.

### 1989 Mid-South Fair

The Bluff City Brewers and Connoisseurs won the Crosby & Baker Club Quality Award at the 1989 Mid-South Fair's homebrew competition. The award is given to the club that accumulates the most points for its top five entries.

Fifty brewers from eight states entered 173 beers at the 1989 fair. Larry Campion of Jackson, Tenn., garnered Best-of-show honors for his stout. Phil Rahn of St. Louis was second for his specialty beer, and Jason Held of St. Charles, Mo., placed third with his porter. The Oxford Brew Club took first in the Light Ale category, while the Squash Blossom Market's Beginning Brewing Class placed first in the Brown Ale category.

### Best of Fest

Dale James and Paddy Geffen of the Sonoma Beerocrats took the AHA-sanctioned Best of Fest club competition held in November with their Oktoberfest.

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# JACKSON ON BEER

MICHAEL JACKSON

## Barman, a Pint of Your Finest Mesopot Ale

**I** trust that you drank a suitable amount of beer over the last few months, and that you did so in a spirit of festivity, ritual and proper contemplation. One thought you might swirl around as you raise a glass is that civilization may have begun this way: with a beer, festivity and ritual.

That is how we came to consider Middle Eastern beer for a moment at Christmas. I recently tasted a beer of Middle Eastern origin, and of great antiquity, and this has made me very contemplative indeed.

You may recall learning (long before you reached an age at which it is legal to drink beer, and therefore had any context for such information), that humans were once nomadic hunters and gatherers. You may remember that people first settled in communities in the region we call Mesopotamia, that they spoke a language we know as Sumerian, and that the sites of this first civilization were in valleys in what we now call Iraq.

There is evidence that these people stopped wandering and settled down in order to cultivate crops, including grain. There has for some years been a theory that they did this not to bake bread but to brew beer.

Did civilization really begin with beer? The academics who have studied this question love the idea,

but are much too—well, academic—to be pinned down to such a simple language. Instead, they wrap their findings in a web of circumlocution that in the end amounts to the same thing.

There are several pieces of evidence for this theory. One is a tablet of stone carved with pictograms that are a recipe for beer. It is the oldest recipe thus unearthed for any drink or food. The recipe was set down perhaps three thousand years before Christ, excavated in the 1930s, and fully translated only recently.

The professor responsible for the translation is in the process of creating a Sumerian dictionary, and told me that he expected the project to last for three generations. He has already done a substantial amount of work, in the course of which he

has established that the Mesopotamians had a word not only for grain in general but also specifically for barley.

The notion that barley was identified 5,000 years ago as the best grain from which to brew beers is an interesting one for purists. I had always imagined that the ancients harvested from fields of mixed grain. Certainly, later civilizations were much more eclectic in their choice of brewing grains. Although barley is more suitable for brewing and wheat for baking, the latter is still used in beers. So, in rarer instances, are oats and rye.

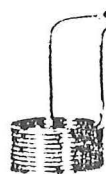
If man did live by beer alone, he made bread in the process. The ancients made bread as a first stage of brewing. They then made a mash from the bread. I have always believed they did this because they did not know how to malt grain. It now seems that they may also have had some method of malting.

Once again, some later civilizations preferred the older, more primitive technique. There still are several beerlike beverages made from bread, notably the *bouza* (perhaps a source of a familiar colloquialism), in Egypt, and *kvass* in Russia and the Ukraine.

The idea that man originally lived from beer was first expounded in a paper by the German Dr. E. Huber in 1926, and was taken a stage further by a group of American anthropologists in 1953. A more



## WHY PAY MORE?



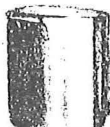
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developed study was produced in 1986 by Dr. Mary Voigt and Professor Solomon Katz at the University of Pennsylvania.

Soon after their study was published I visited them, together with Charlie Papazian of the Association of Brewers.

My most abiding memory of that day is our encounter with another professor, the man who is preparing the Sumerian dictionary. He reached into a drawer, fished out a box that had once contained greeting cards, picked out a stone tablet no bigger than a bar of soap and laconically tossed it across the room to me. It was the oldest recipe in the world.

I was pleased that I did not drop the catch, and said so to the professor. Was this not a rather casual, even negligent way in which to treat an artifact 5,000 years old? He assured me that the stone had been treated to prevent its erosion, and we went out for a meal of Pennsylvanian farm food and microbrewed beer.

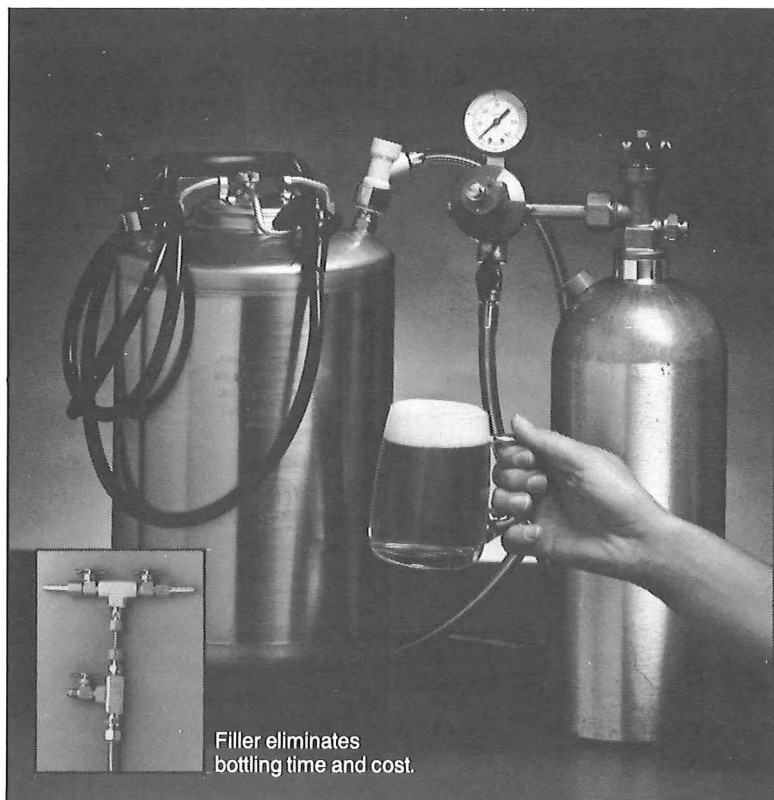
When the tablet was excavated, the dig had uncovered a great deal

more material, including carvings showing people communally drinking through straws. The archaeologists even found a straw coated in gold leaf. There were other tablets, too, documenting the ritual feasts at which beer had been consumed.

Charlie Papazian had a future feast in mind: a conference of microbrewers in San Francisco. This annual conference takes place in a different city each year, and a tradition has developed in which the local brewer makes a special beer for delegates.

Charlie wondered: In San Francisco, would Anchor Brewing Co. be willing to make a beer using the Sumerian recipe? Charlie was in luck. Professor Katz has a deep and broad interest in the history of food and drink; so does Fritz Maytag, the owner of Anchor Brewing Co. The two found common causes.

Soon Professor Katz was visiting San Francisco and plots were being hatched. The Mesopotamians had a goddess of beer called Ninkasi. She was the first deity of beer, so Anchor would make



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a beer to honor her. A tablet called "A Hymn to Ninkasi," dating from 1800 B.C., was used as a text.

Anchor Steam hired a bakery for a whole day and baked until they had filled every inch of shelf space with loaves. They needed that much to fill their mash-tun. The bread was made with barley, some of which was raw, a further proportion malted and the rest roasted. The scholars of Sumeria had told Anchor that the Mesopotamians kept bread in store, ready to make a brew whenever it was required. Anchor reasoned that it must have been very dry to keep, so they baked it twice.

One verse of "A Hymn to Ninkasi" says: "The waves rise, the waves fall." Anchor took this to be a description of the steeping process in malting. For that reason, they also used a proportion of malt in their mash.

Another verse mentions "sweet aromatics," without specifying which. Anchor took a guess at honey and a syrup of dates. There is no mention of hops or of boiling. Anchor took its mash, with an original gravity of just over 1.044, straight to a slow cooling and fermentation. They then cheated by adding yeast.

They used a standard top-fermenting yeast. It is my feeling that they just could not countenance a wild fermentation in their brewery, and who can blame them?

The stone tablets show Mesopotamians dipping their straws into huge jugs not unlike amphorae. That is how a couple of hundred microbrewers at a formal banquet found themselves sucking from plastic tubes immersed in vessels that looked less like giant Champagne bottles than carboys.

We stood in circles round our dinner tables, sucking and seeing. I fancied I could taste the dates and honey. Despite the use of a pitched yeast, I thought I detected sherryish, almondy notes like those sometimes found in a lambic. Although the grain was all barley, I felt I tasted the spicy character of rye as found in a Finnish sahti.

Perhaps I was just being carried away by the antiquity of it all. The

most astonishing perception was how much it tasted like ... beer.

It was, of course, the original beer. Or as original a beer as anyone has ever tasted. The experience was eloquently summed up by Fritz Maytag:

"We began to feel a thrilling link with brewers of ages past. There was a sense of awe as we began to use, as familiar currency in the brewhouse, the language of Ninkasi, technical terms that had not been heard for thousands of years."

They called the beer Ninkasi and, in recognition of the distance in time and circumstances, modestly subtitled it "An Essay." A limited stock is on sale at the brewery, but do not expect to find it in your local store.

Just buy a spicy Anchor Christmas Beer ... and contemplate the depth of our beer-drinking roots.

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



## The California Dreaming Beers

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# GERMANY

## A Visit to Beer Heaven

*by Charlie Papazian*

**M**ost homebrewers go to Bavaria for a vacation. I went there to work. Within hours of landing at Munich's International Airport I found myself sitting on a hard wooden bench with a liter of Hellesbier in front of me. It was the thing I dreaded most. But I soon discovered that having a liter of great German beer with good company isn't so bad after all. I got used to it real quick.

Let me explain: I'm not a "quantity" drinker. I prefer a small amount of beer so I can savor the flavor and sample a number of varieties. But this was Germany—beer heaven. My hosts throughout southern Bavaria usually thought it very strange to have anything less than a half liter and certainly a traditional liter at festivals. I knew from the start it was going to be a rough 18 days, but someone had to do it. I'm pleased to say I adapted fairly well. The camaraderie and the quality of the beer made it a much more sober experience than I had imagined.

## The 949-Year-Old Brewery

It was quite appropriate that my first beer was a full golden liter of Helles (*helles* is the German word for light in color). It was brewed 100 feet away from the garden where I sat, at the Weihestephan Brewery, the oldest working brewery in the world. Founded in 1040, Weihestephan is also the center for one of Germany's most prestigious brewing schools, Weihestephan University.

Helles beer is consumed in great quantities at folk festivals throughout southeastern Germany, otherwise known as Bavaria. Its deep golden color is associated with the pleasantries of conversation, family and the peacefulness of Bavarian beer gardens. Its character is somewhat sweet, usually with very little, if any, hop aroma or flavor. It has a very low bitterness level and an alcohol content of only 3.8 percent. Served cool (about 50 degrees F, 10 degrees C) Helles accounts for 25 percent of all beer consumed in Bavaria, but is virtually nonexistent outside this state. At two German marks to the U.S. dollar, a liter was usually very reasonable at \$2.50.

A tour of Weihestephan Brewery and the university's brewing facilities was one of the highlights of my stay in the small town of Freising. The university offers a Brewmaster's degree and a degree in Brewing and Beverage Technology Engineering. The entrance requirements are tough and the curriculum, all in German, is even tougher. The Brewmaster's degree requires a minimum of two years studying at the university. You must qualify first with a high school degree and three years of practical experience in a brewery or, if you've had four to five years practical experience and training in a certified technical university, you may qualify for a degree with two years of study at Weihestephan. To advance and earn a "Diplom Ingenieur" (an engineering degree), four to five years of study is required.

I had the privilege of a tour led

by Herr Professor Doctor Narziss. Every aspect of brewing beer is covered in the course work. Laboratory facilities are available for students to study, analyze and experiment with malt, hops, yeast and water on both a pilot and full brewery scale. A thorough understanding of both traditional and modern brewing techniques is stressed.

Interestingly, there are two commercial-size breweries on the grounds at Weihestephan University. One is private and the other is run by the government. The private brewery is run by the University



**Beer festivals abound throughout Bavaria during the summer months.**

and is used by students (there are also numerous pilot breweries). Weizen beer is brewed here for sale commercially. The Helles beer and Pils I enjoyed in the nearby garden were brewed at the state-run brewery, a much larger facility for brewing and bottling a variety of beers.

## The Doemens Brewing School

Just southwest of Munich is another renowned brewing school in the small town of Graefelfing. The Doemens Technical School for Brewers and Maltsters was founded 95 years ago and presently special-

izes in two-year "Technikums" (all-German language technical courses). Students are awarded Brewmaster diplomas after successful completion of the curriculum. Beer and brewing are not the only subjects taught at the Doemens School, as Doemens Director, Diplom Brewmaster Georg Zentgraf emphasized to me. Besides the more obvious course work in beer and malt production, the curriculum includes chemistry, physics, nutrition, microbiology, business psychology, statistics, technical instruction (electrical, materials, machinery, etc.), energy economics, industrial hygiene, accounting and mathematics.

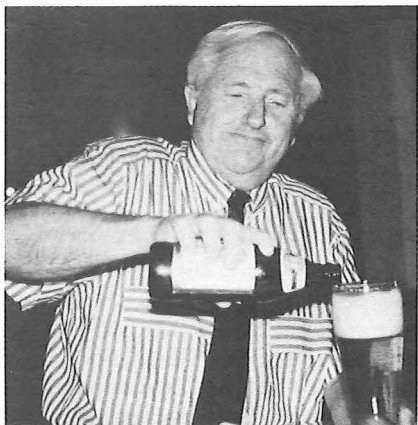
The Doemens School curriculum stresses hands-on training as well as classroom study.

Microbiology, chemistry, and the beer *Technik* were just three of the many modern laboratories housed at the school. Chromatographs, conductometers, yeast cell counters, continuous fermentation apparatus, spectrometers, computers and software for bacterial analysis and much more equipment are at the disposal of Doemens students.

Students first learn about and then experience virtually every phase of the brewing business. Besides analytical equipment, the Doemens School houses a complete commercial-scale brewery along with a full-scale bottling line. Students are required to operate and know how to repair any part of the systems. It's a school for those who have an aptitude for the operation of industrial machinery and are willing to put a lot of effort into studying.

From time to time Doemens runs a seminar in English on brewing that can continue up to nine months. When I visited the facility I met an international class of brewers from Panama, the Philippines, South Yemen, Chile, the United States, Samoa, Ghana, St. Vincent and Namibia. The curriculum is divided into week- or month-long special sessions on various aspects of brewing. Often brewing companies will send employees to participate in

Photos by Charlie Papazian



**Doemens School of Brewing Director, Dipl. Brewmaster Georg Zentgraf serves a student-brewed Weissbier.**

their specialty at the seminar.

Of course the school would not be complete without a Bierstubl or beer room. It was there I enjoyed a student-brewed Pils *vom Fass* (from draft), accompanied by a Bavarian specialty sausage called *Weisswurst*.

It was a long afternoon at Doemens. On the *S-bahn* (Munich metropolitan light rail train) I decided to pay an early evening visit to the downtown area and have a few local beers. A pilgrimage to Munich would not be complete without a liter of Helles at the infamous Hofbrauhaus. It was indeed everything everyone told me. Crowded, noisy, lotsa beer, music and giant pretzels. One liter was enough before I sought the quieter local beer halls.

### Pils

I ended up in the Schneider Weisse Bier Haus for a few relaxing Pilseners at the community table (called the *Stammtisch*). I sat with old and young adults, children, dogs and lots of beer. It's true what they say about German Pilseners. It takes about five minutes to pour a .4 liter stemmed glass of this nectar. The Germans like a dense, white, creamy head on their Pils and they take great care in pouring this beer. The first pour is 10 percent beer and 90 percent foam, then there's a wait for it to settle down for the second, third and possibly the fourth pour from the Pils Fass. The result is a cool, low-carbonated, small-bubbled dry beer with bitter hop character

and a whipped cream head. If you're thirsty you might want to order your second beer as soon as you get your first.

Speaking of Pils, two weeks later I had the good fortune to stumble across Czechoslovakian Pilsner Urquell and Budvar (the original Budweiser) on tap in Frankfurt. Interestingly, these two classic Pilseners expressed flavor characters that were worlds apart from the German Pilseners I tasted throughout my travels. Both Pilsner Urquell and Budvar were much more malty in flavor with a highly noticeable diacetyl (butterscotch) character, full body and less hop flavor than the German version of Pils. Pilsener isn't just Pilsener—there are some very significant differences. But both types were immensely enjoyable and were served in elegant glassware with a luscious creamy white head.

Somehow, I don't know how, the time got away from me and I ended up on the midnight train to Freising.

Summer in Bavaria isn't all sunny skies and cool shade. Quite the contrary. Most Germans kept saying, "When it's summertime..." and here it was almost July. It was on one of those cool, rainy, gray Sunday afternoons that I made my pilgrimage to Andechs Monastery, Brewery and Beer House, west of Munich and reachable by the *S-bahn*.

From the train station it is about a three-mile, thirst-provoking walk through the forest to the top of the hill where this active monastery peacefully overlooks the valley below. The monks brew a variety of beers for which they are famous, but today I was disappointed as I was restricted to only their Helles and did not have the opportunity to down a liter of their famous *dunkel* (dark) Andechs Bock beer. Only recently the monks had decided to limit the weekend tourist crowds to their less potent Helles, as they've had problems with drunks who could not handle their high-strength Bock. So if you're going to Andechs I recommend that you go on a weekday (they are closed on Tuesdays).

### Wheat Beers

Whichever you call it, *Weizenbier*

or *Weissbier*, wheat beer is spectacularly popular in Bavaria. Five years ago this slightly acidic, yeasty, clovelike, well-carbonated style of beer accounted for less than 1 percent of beer consumption. Now it is the second most popular style of beer in Bavaria (Pils is first) with a 28 percent share of the market. In Germany it accounts overall for 8 percent of the market. Bavarians love their *Weizenbier* and they like it *mit Hefe* (with yeast).

I had the privilege and great pleasure of spending two days with Hans Hopf and his family in Miesbach, 30 miles south of Munich in the foothills of the Alps. The Hopfweissbier Brauerei has been in the Hopf family for three generations and has expanded to 30,000 hectoliters (25,500 U.S. barrels) per year production to keep up with the growing demand.

A morning in the brewery and some enjoyable evenings at local beer gardens revealed some insight into the wheat beer phenomenon. Hans explained, "I have problems sometimes with my cask wheat beer because the yeast settles too well and the beer comes out too clear. People prefer yeast in their wheat beer. I tell the managers to roll the kegs a little, but that does not seem to help." I was astonished when he told me that some beer gardens and beer houses offer yeast dispensers, designed like mustard dispensers. "People will put the yeast in their other beers as well. It is a healthy thing to do because of all the vitamins in beer yeast."

I looked around at the several hundred people in the beer garden. Almost all of them were drinking wheat beer in tall, half-liter, classic wheat-beer glasses. I was one of the exceptions. Since I was five years old and bit into a whole clove in my mother's Easter ham I have had an aversion to that flavor. And it is that unique, clovelike, phenolic flavor produced by strains of top-fermenting beer yeast that gives wheat beer its character, along with a slight acidity that people crave for its refreshing qualities. I'm an exception, for sure, and I recognize it.

Are you thinking of culturing

up that yeast sediment on the bottom of a bottle of German wheat beer? After all, it is alive and there to naturally carbonate the beer in the bottle. Well, you probably will be a bit disappointed. Most wheat beers are filtered before bottling in order to remove the top-fermenting yeast, which is usually powdery. The yeast-free beer is then inoculated with a more flocculent (more easily sedimented) strain of lager yeast. While touring the brewery Hans explained that using a different "bottle yeast" affects the flavor of the beer significantly.

In the room beneath the kettle it was very warm. It was there Hans had me sample a small batch of fermenting wort. It was so sour it made my mouth pucker. "That is 1 percent lactic acidity," he explained. Because of the natural carbonate hardness of the local water, Hans has been experimenting with naturally acidifying his mashing regime and wort production. High carbonate levels in water will produce pH ranges in water that prevent maximum extraction from grains during mashing. By fermenting a portion of naturally produced wort with a strain of *Lactobacillus* bacteria, Hans is able to add a portion of soured extract and obtain a better yield from his grains. By adding a portion of soured extract to his wort boil Hans finds he can control the flavor of his Weissbiers better and get an improved hop utilization.

Because of traditional adherence to Germany's beer purity law, the *Reinheitsgebot*, most German brewers will not use industrially-made acids to adjust the pH of their mash or wort. Much of Germany's water is polluted with man-made nitrates from fertilizers used in agriculture. The water is unfit for brewing, so almost every brewery I visited filters its water or uses deep well water (which often has high carbonate levels).

The Hopfweissbier Brauerei brews wheat beer exclusively, but there are three or four versions of this style, including a Dunkel Weizen, Weizenbock and Weizen Doppelbock. The Hopfweissbier Brauerei is a family-owned, private

brewery. Who will carry on the brewing tradition in the family after Hans retires? His 13-year-old daughter has an interest in attending Weihenstephan University and taking over as brewmaster someday. When I last saw her, she was wearing an AHA T-shirt that read, "I brew therefore I am."

### Cruising with the Prinz

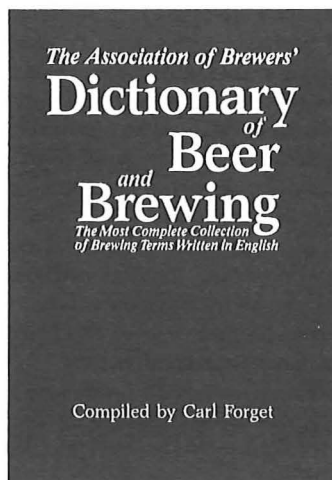
Another day, I found myself cruising the countryside with His Royal Highness Prinz Luitpold of Bavaria. Prinz Luitpold would have been the successor to the throne of Bavaria, if such things happened today. Instead Prinz Luitpold is a brewer and operates two breweries west of Munich; one 300,000 hectoliter brewery in Fuerstenfeldbruck and another 100,000 hectoliter brew-

ery at his castle at Kaltenberg. He also builds microbrewery and brewpub systems, 30 of which have been installed in such places as China, Canada, Hungary, Russia and Germany. And if that isn't enough, he organizes a medieval jousting tournament and Renaissance festival at his castle every summer.

On the way to Kaltenberg, Prinz Luitpold told me, "There are about 800 private breweries in Germany. Every year there are fewer." I knew this and always felt a bit of remorse whenever I heard those statistics, but the prince explained that it was not all the result of poor business management or lack of marketing. On the average every 30 years a private brewery goes through a generation change. About 30 breweries each year face a family decision as to who will manage the brewing

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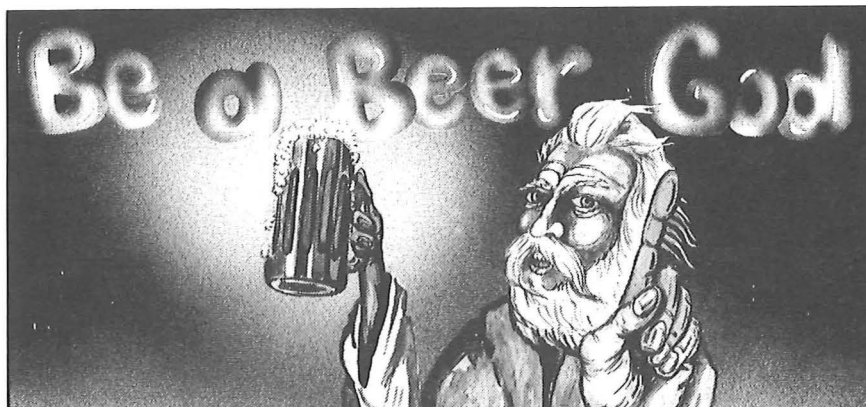
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operation. Sometimes there are family disagreements and often no one in the family is interested in continuing the brewery. This was a perspective I had never thought of before.

### Alcohol and Health

I recall the concerns expressed by some dedicated young brewmasters I shared a beer with in Freising. There is a growing concern about the health problems of alcohol, with an emphasis on abstinence from beer. The older traditional brewers do not seem concerned enough. German brewers are a fiercely independent lot. One brewing consultant felt that unless the breweries begin to cooperate on certain industry-wide concerns, they will face big problems in the near future. "They must prepare now, but I do not see it happening," he said.

Earlier in the day Prinz Luitpold took me on a quick tour of Fuerstendruck's festival. The brewery sponsored a very large beer tent. It

was midafternoon in the middle of the week and there were thousands of people drinking liter mugs of Luitpold's Hellesbier. The brewery was sponsoring free beer for senior citizens and virtually everyone there was between the ages of 60 and 100. There were both quiet and animated conversations everywhere as the oompah band belted out classics. I looked around at all those wise faces that knew of other times and many more breweries. It occurred to me that, yes, more changes are yet to come as Germany joins the European Economic Community.

Prinz Luitpold's home and brewery, Kaltenberg Castle, is in the quietly picturesque countryside. Here he brews his increasingly popular Dunkelbier, some of which is lagered in large, century-old oak barrels. It is also the site of his jousting tournament each summer, an event that attracts more than 200,000 thirsty people. By the way, if you're interested in a custom-made suit of armor he can get one for you for only about \$1,500, guaranteed to make beer drinking more difficult.

### Rye Beer and Thailand

In 1988, while vacationing and trekking through the jungles of Thailand, I stopped to cool my thirst with a Thai-made beer called Singha. A German traveler sitting across from me agreed that Singha was "an all-right beer." He said that there were many good beers in his home country, "but if you are ever interested in an unusual beer you must go to Regensburg. There is a brewery called Thurn und Taxis in Schierling that makes a rye beer."

The train left the Miesbach station at 10:25 a.m. six months after that encounter in the jungles of Thailand. Ticket in hand, I was headed north to Regensburg.

Still in Bavaria and only about three hours north of Munich by train, Regensburg is steeped in malt and history. Birthplace of Martin Luther, Regensburg boasts a population of about 100,000 people, over 100 churches and four breweries. Many years ago there were more than 40 breweries.

Of the four breweries, two (soon to be three) are "public" breweries and one, Thurn und Taxis, is privately owned. The public breweries are incorporated in such a way that the profits from the brewery go to a charitable foundation. The Bischof's Brauerei profits go to priests. The Spital Brauerei profits go to a hospital for the aged. And the Kneitingen Brauerei, although presently a private, family-owned brewery, is willed to benefit orphaned children and children whose parents are unable to care for them.

Lunchtime in Regensburg was a quest fulfilled. I finally drank a very tall, specially endorsed glass of Thurn und Taxis Roggenbier (rye beer). Dark and yeasty, the beer's character is remarkably similar to Bavarian Weizenbiers. It has a clovelike character and is slightly higher in refreshing acidity. You guessed it. I didn't care for it. I did admire the quality of the beer and the care with which Thurn und Taxis developed this product.

Malted rye presents some unique problems for the brewer in that it is very "gummy" when mashed and is notorious for set

mashes and runoffs. The brewery evidently developed a special process to deal with the problems of rye malt.

The beer is more than 50 percent rye malt and is darkened with colored barley malt. According to the brewery, in olden times rye was valued as a grain with high nutritional value. Five hundred years ago it was forbidden to brew beer with rye; the grain was reserved strictly for bread. Now, with an abundance of rye, Thurn und Taxis brings back the tradition of brewing with this grain.

### Floor Maltings

Regensburg is not only unique for its rye beer, but also for a small 15,000 hectoliter brewery that produces some of its very own specialty malts using an ancient floor malt-house. The Kneitinger Bock Brauerei is a small brewery in the old part of Regensburg. A small *Bierstubl* and *Bierzimmer* (beer serving rooms) are attached to the brewery. It is a must for any beer enthusiast.

I had written months ahead of time and requested a tour. Herr Fromm, the brewery manager, obliged me with a cordial walk through the brewery, describing how they produce their Pils, Dunkel and seasonal Bock beers. Their dark beers are something special and it was proudly explained that the malts for them are made at the brewery itself. Fifty percent of their beer is served on draft at their brewery and at the four inns they own. The other 50 percent goes into bottles. I found this 50-50 split to be common among many of the small breweries I visited.

In the cellars of this old brewery are 20-hectoliter oak lagering tanks, each sealed with a wooden door that is lined with a gasket made of reed and tallow. My interest in the floor maltings was obvious and after the tour I was escorted across the Donau River to possibly one of the last operating floor maltings in Germany. On the street a simple sign read, *Malzfabrik Hermann* (Malt-house Hermann). We went through the arch into a small courtyard. Herr Hermann greeted us and was more than happy to give a brief tour of the malt house that has a yearly production of 1,000 metric tons. The

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### God and Beer

After we left the Malzfabrik, the tour over, I was soon invited to a

*Kirchenfest* in the town of Amberg (some 40 minutes drive north of Regensburg). Herr Fromm, his friends and I arrived just before dusk at the top of the hill overlooking the town of 50,000 people and 11 breweries (each no larger than 15,000 hectoliters per year in production). This was the week of the local *Kirchenfest*, literally translated: church festival. During my travels throughout Germany I



**Brewmaster Hans Senger of Brauerei Barth explains the function of the cool ship, a shallow pan where beer is air-cooled before forced chilling.**

had heard it said many times that "In Germany you cannot separate God and beer." It's true. So many times I had seen the inscription, "*Im Hopfen und Malz, Gott Erhalts*," which means "In hops and malt, God supports." And it is also true that if you look for the church's steeple in a Bavarian town, within 100 meters you will find a brewery.

Every one of the 11 local breweries was represented on the grounds of the church on the hill, with a large beer tent and God knows how many hectoliters of Helles and Weizenbier. Schnitzels, wurst and humongous pretzels were everywhere and hardly a seat was empty. It was twilight and my liter was working full time as the conversation became relaxed and interesting in the warm company of new-found friends.

### **The World Guide and Smoke-flavored Beer**

In 1979 I was given Michael Jackson's *World Guide to Beer* as a gift. One of the most intriguing beers I came across in this classic volume was German Rauchbier or smoked beer. I tried brewing my own but it wasn't until my journey to Bamberg, home of two or three locally brewed Rauchbiers, that my 10-year Rauchbier quest was complete.

A three-hour journey from Regensburg through Nürnberg to Bamberg had my mouth watering with anticipation and my arms and body aching from carrying the increasing weight of souvenir beer and beer steins as baggage (I guess

you've got to suffer a little).

Rauchbier: It was indeed nectar. Brauerei Spezial and Schlenktra Brauerei both brewed superb versions of Rauchbier. Both were distinctly smoked and fairly (though not assertively) bitter, although Brauerei Spezial brewed a

more lightly smoked version than the Schlenktra. I found that both went exceptionally well with a meal of pork, chicken or wurst. They were quintessential in my book.

### **Hop Orchestra**

As luck would have it I stayed at the Fassla Brauerei Gasthof, a brewery inn in downtown Bamberg right across the street from the Brauerei Spezial. The Fassla Gold-Pils and their Dunkel Zwergla were a real treat. Especially unique was the exquisite hop balance that Brewmaster and Owner Sebastian Kalb had orchestrated in his Gold-Pils. The special spiciness and flavor of German-grown hops came through as no American hop could. The bitterness lingered just long enough but did not overtake the entire palate. It was one of my favorite light beers in Bavaria. And I was staying in a room just three floors above the beer room. I never thought heaven was so close.

Erich Vogt was a homebrewer student of mine in 1978, when I was regularly teaching classes in Boulder, Colo. It was his presence here that actually brought me to the Bamberg area. Erich is going to a German trade school to learn brewing. Simultaneously he works maybe 30 hours a week at the St. Georgens Brauerei in Buttenheim as an apprentice. His fluent German makes it a bit easier, and he was able to take a small amount of time off to show me the beer sites in and around Bamberg.

The countryside is rife with

small breweries. One memorable small village brewery had a 25-seat beer room, through which they dispensed the 1000 hectoliters (850 barrels) of beer they brew each year. A spontaneous guided tour of Brauerei Barth by the brewer himself, Hans Senger, revealed a mash-tun and boiler with which decoction mashes are done. (Virtually all beer in Germany is made from a decoction mash, whereby a portion of the mash is boiled and then reintroduced to the mash-tun. This is said to give better yields.) From the copper kettle the hot wort is poured into a cool ship: a large, open, shallow pan that holds hot wort to a depth of about 10 inches. Here it cools, then is drained by gravity to be force-cooled by a wort chiller. From there it goes into the fermentation tanks. Hans Senger, the brewer, showed us his fiberglass "backpack" with which he carries loads of spent grain, hops and trub down the ancient wooden stairs from the upper floor of the brewhouse. Nearby Hans and his family grow barley and potatoes and raise pigs, when they are not involved with his weekly 37-hectoliter batch of brew.

It was the season for Keller beer, a style of beer that is available during the warmer months of the year, when lagering cannot be done at naturally cold temperatures. The beer is drawn fresh and unfiltered from the lager tanks, then served in stoneware. A platter of homemade sausage and bread seem always right behind a round of Keller beer.

It was always easy to go to sleep each night. I don't think there are many insomniacs in Germany. If there are, they certainly don't drink the beer. My dreams each night were incredibly vivid and entertaining. I think it was the hops. In fact I know it was the hops. I'd never dreamed like that in my life.

### **Düsseldorf's "Old Beer"**

My work was coming to an end. I was beginning to look forward to getting back to Colorado, some sunshine and a cold glass of soda water (don't tell anyone I said that). At first I had planned to spend two days in Frankfurt, but having looked

at a map I noted that Düsseldorf was only another three hours north by train. Besides, if I went that way I passed through Cologne, home of top-fermented Kölschbiere.

I decided to go for all it was worth and traveled by train for eight hours to arrive in Düsseldorf by 5 p.m. It was summertime, the air was warm and the daylight lingered until 10:30. It had also the Fourth of July and there were no cherry pies, hot dogs, American flags, watermelon or fireworks. But this boy was looking for something else: German Altbiers!

I managed to discover, simply by walking in the *Altstadt* (old city), four Alt breweries and their house Alts as well as countless other brands. Uniquely top-fermented "old" beers of Germany, I found Altbiers to be generally light brown in color, rather dry, with no hop aroma or flavor, but awash with intense hop bitterness.

I believe by 1 a.m. I could say that Zum Uerige Alt (Uerige means crazy old man) had my vote for top honors of the evening. Dry and clean, with very little fruitiness (there was the tiniest bit of apple ester), no dark malt flavor (despite its tawny color), good head and cling (the dry foam that sticks to the glass), its bitterness was quickly asserted and lingered distinctly and delectably, but was not obtrusive. The bitterness was only evident on the back of the tongue and not in other parts of the mouth. I liked it. As with all the Alt beers in Düsseldorf it was served in straight up .21-liter glasses, topped with about an inch of creamy white foam and costing about 85 cents a glass (twice as expensive as beer in Munich).

Other Alt beers I had the pleasure to taste were Rhenania Alt—an Alt beer that was very fruity, with the aroma of apples. Zum Schluessel's Gatzweiler Alt had a slight banana ester, and the flavor of a late hopping with what I thought were old, stale hops. Schumacher Alt had a character of stale hops and applelike fruitiness. Im Fuehsen was by far the most bitter of all of the Alt beers I tried. It had a slight coconutlike ester and an aroma of late hopping, though

probably not with an aroma-type hop. The bitterness was too intense for my mood at the time.

The next morning I caught the 8 a.m. train (hey, you've got to suffer a little more) and was back in Frankfurt by noon. I prepared for my 8 a.m. departure from Frankfurt's International Airport; that meant being at the airport by 6 a.m. It was my final evening in Germany. I could not bear the thought of sleeping through valuable beer-tasting hours, so...

I explored an old part of Frankfurt, the Alt Sachsenhausen district. There I began my afternoon with a Berliner Weisse with raspberry *Schuss* (syrup). It reminded me of the Belgian lambics brewed not too far away. I went on to discover a pubbrewery, and local beer houses serving everything from Budvar, Pilsner Urquell, Guinness Stout (made with roasted malt instead of roasted barley, in order to comply with the German Reinheitsgebot), Smithwicks Pale Ale, Bitburger Pils, Kupperts Kölsch, Kronenbourg and dozens of Alt beers.

### Bitburger Pils Finale

It was the Bitburger Pils that inspired some of my final thoughts on German beer and brewing. It was well past midnight and I was enjoying one of those slowly poured Bitburger Pilseners. The bitterness was a masterpiece of the brewer's

art. Somehow these brewers had perfectly brewed this famous beer in a way that pinpoints the sensation of hop bitterness on a specific area of the tongue. That was what was so wonderfully unique and enjoyable about this beer. Then I began to think of all the other kinds of bitterness I have experienced in my beer tastings, both in Germany and on my travels around North America. There are so many different kinds of bitterness. Bitterness that lingers, that is assertive, overpowering, fleeting, soft. Bitterness that is sensed on the center back of the tongue, on the roof of the mouth, on the sides. All of these sensations orchestrate and punctuate the other flavors of beer.

I have a new admiration for all the true brewmasters of the world. They have studied the art and science of brewing for years, sweating in the brewhouse and freezing in the kegging cellars, gaining years of practical experience in order to earn the privilege of being called "Brewmaster." I thought how mysterious it was to have that knowledge. That "touch" and the intuition to be able to choreograph a beer's bitterness so that it dances in one's mouth.

I had only four hours of sleep that final night in Germany but I dreamt every minute of them; of hops, malt, yeast and water and of sorcerers who transform these things into beer.



**"Brewpub" Zum Uerige in Düsseldorf, West Germany, offers one of the finest Altbiers in town.**



*eisse? Weizen? Wheaten?* No matter how you say it, you're talking about brewing a beer with a portion of wheat malt.

It's been only four or five short years since this style was re-introduced to the United States. In that time, the style has really taken off for many micro- and pubbreweries. Some brewers state that it's their largest-selling product.

The style originates in Germany, where regional variations in the brews are apparent. Most homebrewers are familiar with the difference between Bavarian wheat beers (often fruity and slightly tart) and Berliner Weisse, which is more sour. Malted wheat was not allowed in Germany's original version of the Reinheitsgebot of 1516, but that purity law was amended eventually to allow the use of malted wheat to produce these beers.

In general, wheat beers are made with at least one-third malted wheat. The German styles typically feature at least 50 percent wheat malt, while the variance is greater among American products. Top-fermenting yeasts and low hopping rates also are characteristic of the style.

Our introduction to the wonderful world of wheat beers occurred during our March 1985 "Grand Slam" tour of Wisconsin (so called because we visited what were at the time the only four independent breweries in Wisconsin). All were regional breweries, because microbreweries and brewpubs were then unheard of in the upper Midwest. The reason for the trip was to travel from Duluth, Minn., to Milwaukee, Wis., to attend the first North Central States Regional Homebrew Conference, co-sponsored by the AHA and the Purple Foot of Milwaukee. We did so along with fellow Northern Ale Star member Greg Stone.

After the one-day conference (and an impromptu tasting of Midwestern Bock beers in our hotel room), we repaired to a local German restaurant in the company of Charlie Papazian, Grosvenor Merle-Smith, and Jerry and Mary Uethemann of the Purple Foot. We can't remember who, but somebody ordered a round of wheat beers for the table (we do seem to recall that it was Hacker-Pschorr). Our curiosity was aroused when the beer arrived, as we had never seen this product in our local market. After the heavier, darker beers we had been drinking earlier, the light and refreshing wheat beer was a revelation! Somebody at the table kindly explained that the beer is frequently accompanied by a lemon slice, which enhances its tartness (a feature of many but not all wheat beers). Or, if the wheat beer is on the sweet side, the lemon provides a balance that makes the beer more enjoyable.

The trip continued the following day as we drove to Monroe, Wis., to visit the

# Amber Waves of Wheat

## America's Wheat Beers

Huber Brewing Co. We arrived on a Sunday night and immediately took refuge from the snowstorm in Baumgartner's Cheese Shoppe and Tavern, a classic Wisconsin family tavern. Our main reason for this stop was the Huber Bock Beer on tap.

Again, after several rounds of this excellent brew, we discovered that the bar stocked Kiesel Wheat Beer (another German product, then imported by Huber). Several rounds of this ensued, as we experimented with the two versions available—filtered and unfiltered (*hefeweizen*). The filtered version, sometimes called *hefefrei* or *kristal*, was somewhat lighter in color, body and flavor than the *hefeweizen*.

Since that fateful trip, we've been hooked on the style, and have had the pleasure to witness a small-scale explosion in the number of imported wheat beers available. At the same time, the style was re-introduced to America. In late 1984 and early 1985, several small American brewers began brewing wheat beers.

Various claims are made as to who began this wheat revival. We do know that by spring 1985, at least four breweries in this country had wheat beers available. Happily for us, one was August Schell Brewing Co. in our home state of Minnesota (the others were West Coast—Anchor, Yakima and Hart). In June 1985, hardly a year after we'd discovered the style, we found ourselves at the 125th anniversary celebration of Schell, drinking August Schell Weiss on tap.

Subsequent trips to many American microbreweries and to the heart of Bavaria have served only to confirm our passion for this style. So, after minimal arm-twisting from the *zymurgy* staff, we embarked on the research for this article. We cannot claim to have contacted all American brewers of wheat beers, for it seems that every list of micro- and pubbrewers is obsolete before the ink is dry—not that we're complaining! The following is a representative sample of wheat beers produced literally coast to coast. Brewing particulars (malt and hop types, original gravity, etc.) may be observed in the chart.

During our research, we did determine that on the West Coast there seems to be a uniquely American style of wheat beers. These feature the generous use of wheat malt, but use American or English ale yeasts for fermentation. This practice reduces the traditional fruity-spicy-citric characteristics and leaves a smooth, mild beer that tends to finish fairly dry.

It should be noted that the beers we sampled for this article were purchased in retail establishments, so we cannot say whether or not they were in peak condition.

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DON HOAG AND JOHN JUDD

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Have fun! And while you read on, we're going to crack open a bottle of Erdinger Pikantus Dunkel Weizenbock from Germany until we can get out and replenish our stock of domestic and homebrewed wheat beer.

### Wheat Beers of the United States

**Brewer:** Anchor Brewing Co., San Francisco, Calif.

**Product:** Anchor Wheat Beer.

**General Information:** Anchor believes it was the first American brewery to produce a wheat beer since Prohibition, as their product was first brewed in August 1984. Assistant Brewmaster, Mark Carpenter, explains that owner Fritz Maytag wanted to produce a lighter-bodied beer, and settled on wheat beer as a style. It also was decided that Anchor would not produce a traditional German-style wheat beer. Instead, a top-fermenting American ale yeast is used to produce a beer that does not exhibit the clove-fruit character of the German style. Anchor Wheat currently is available only on draft, although bottling may resume in the near future.

**Brewer's Description:** Lighter in body and flavor with a great tartness and capacity to quench thirst. It's an American wheat beer.

**Brewer:** Anderson Valley Brewing Co., Boonville, Calif.

**Product:** High Rollers Wheat.

**General Information:** This brewery opened in 1987, and has since opened a brewery tap called the Buckhorn Saloon. Their first wheat was a seasonal offering but became so popular that the customers demanded it year-round. They use an extremely long mash cycle, slowly raising the temperature from 130 to 150 degrees F (54.5 to 65.5 degrees C) overnight. A Weizenbock also is offered in the spring, called Wamber. Besides the brewery tap, the beer is available at other local tap accounts and in 22-ounce long-neck bottles.

**Brewer's Description:** Brewmaster Ken Allen describes the color as being a very pale straw. The beer is lightly carbonated. A mild, hoppy aroma from the B.C. Kents (used in the hop back) is present. The wheat character is the most pronounced, with a tart, dry finish.

**Brewer:** August Schell Brewing Co., New Ulm, Minn.

**Product:** August Schell Weiss.

**General Information:** This small regional brewery is still family-owned, and inaugurated the Weiss beer for its 125th anniversary in 1985. It is now produced on a regular basis in response to customer demand. The beer is fermented with a German Weissbier yeast from Weihenstephan. A two-time gold-medal winner in the

professional judging at the Great American Beer Festival, it is nationally distributed in 12-ounce longnecks.

**Brewer's Description:** President and Brewmaster Ted Marti states that his beer is pale amber in color and pours to a nice, full head. A full malty nose with hints of the yeast-wheat character is present. The taste is slightly tart but dominated by a citric fruitiness.

**Our Impressions:** A crystal-clear amber beer with average carbonation and a tight but low-profile head. The aroma is fruity with some spicy tones. The flavor is very citric and tart. It finishes very clean and dry, and the lingering taste is so tart as to be almost sour.

**Brewer:** Capital Brewing Co., Middleton, Wis.

**Product:** Garten Weizen.

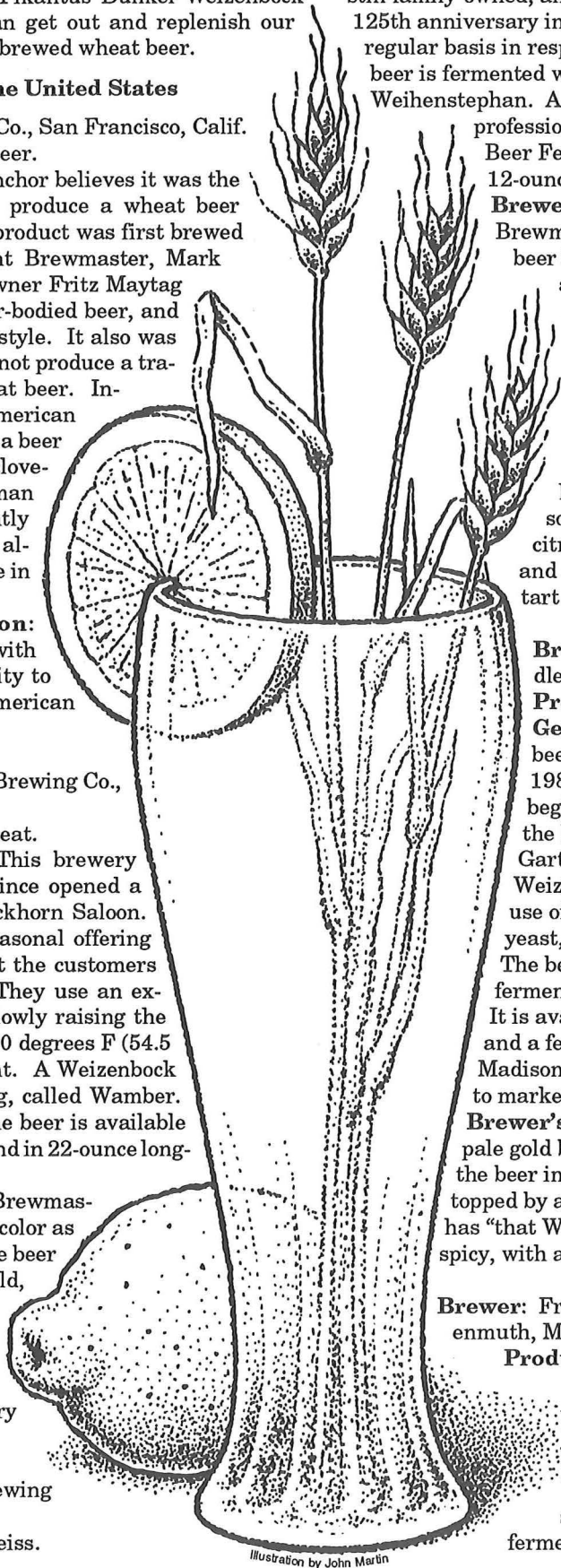
**General Information:** This wheat beer was first produced in summer 1987 and is seasonally available beginning each May. Kirby Nelson, the brewmaster at Capital, feels that Garten Weizen is a true Bavarian Weizenbier. He attributes this to the use of a genuine top-fermenting Weizen yeast, and a seven-step mashing cycle. The beer is kegged just before the end of fermentation, to let it naturally carbonate. It is available in the brewery's beer garden and a few selected tap outlets in the Madison area. In 1990, the brewery hopes to market Garten Weizen in five-liter cans.

**Brewer's Description:** The appearance is pale gold but with a haze because only half of the beer in each keg has been filtered. It is topped by a full head. According to Nelson, it has "that Weizen smell," and the flavor is spicy, with a banana-estery character.

**Brewer:** Frankenmuth Brewery, Frankenmuth, Mich.

**Product:** Frankenmuth Weisse.

**General Information:** Brewmaster Fred Scheer reports that this beer was first offered in spring 1989, and he is planning a seasonal beer each summer and fall. The beer is fermented with a special strain of yeast



## Amber Waves of Wheat—America's Wheat Beers

Brewer/Product	% Wheat	Other	Hops**		IBU†	Type of	O. G.	Ferm.	% Alc.
	Malt	grains*	Bittering	Aroma		Mash††		Length	
Anchor/Anchor Wheat	72	2	(secret)	(secret)		S	1.044	2.5 wks	3.7(w)
Anderson Valley/High Rollers Wheat	45	2, M	N. Brew.	B.C. Kents		S	1.056	4 wks	3.6(w)
August Schell/A. Schell Weiss	60	P, M, D	Casc., Clust.	Haller.	10	S	1.044	2.5 wks	3.4(w)
Capital/Garten Weizen	60	2	Clust.		12-14	S	1.044	3 wks	3.6(w)
Frankenmuth/ Fr. Weisse	75	P, C, D	Haller., Clust.	Perle	21	D	1.046	94 hrs.	3.2(w)
Goose Island/Chicago Vice Weizen	73	6	Haller.			S	1.043	2 wks	3.0(w)
Hart/Pyramid Wheaten®	50	2, C	Cascade	Perle	25	I	1.042	10 days	4.0(w)
Kelmer's/Krystal Wheat	60	6, M, C	Casc., Haller., Tett.	(same)	15-20	I	1.045	3 wks	4.0(w)
Montana/Kessler Wheat	60	6, M, C	Casc., Will.	(same)	18	I	1.043	4 wks	3.6(w)
Redhook/Wheat Hook Wheaten	58	2	Tett., Hersbrucker	(same)		S	1.034	46 hrs	3.3(w)
Sprecher/Milwaukee Weiss	30	P, M	Casc.	Styrian	18	S	1.046	4 wks	3.5(w)
Stoudt/Stoudt Weizen	60	6	Haller.			I	1.044	4 wks	
Widmer/Widmer Weizen	40	2, M, C	Tett.	Casc.		S	1.044	2 wks	3.3(w)
Yakima/Grant's White Bear Weiss	25	2	Galena	Casc.	28	S	1.047	7 wks	

**\* Key to grain types:**

2 = Two-row pale  
6 = Six-row pale  
P = Pale, undetermined  
C = Caramel  
D = Dextrin  
M = Munich

**\*\* Hops abbreviations:**

N. Brew. = Northern Brewer  
Casc. = Cascade  
Clust. = Cluster  
Haller. = Hallertauer  
Tett. = Tettnanger  
Will. = Willamette

**† International Bittering Units:**

Parts per million of alpha acids in the beer

**†† Key to Mash types:**

D = decoction  
I = single temperature infusion  
S = upward step

Scheer brought from Germany—KK86. This is a top fermenter that does not autolyze much, which is advantageous because the beer is only coarse-filtered to allow bottle conditioning. The beer is available only in Michigan, and only in bottles.

**Brewer's Description:** Golden wheat-beer color with a higher than average carbonation. It has a Bavarian flavor in that it tends to be more tart than sweet (Scheer asserts that North German wheat beers are sweeter than southern or Bavarian versions). It does, however, have a nice hop balance.

**Our Impressions:** Light gold and semiopaque due to cloudiness. Pours with a substantial, rocky head with active carbonation. The modest aroma is of citrus fruit. Light-bodied on the palate; a sweet foretaste with a somewhat fruity finish.

**Brewer:** Goose Island Brewing Co., Chicago, Ill.

**Product:** Chicago Vice Weizen.

**General Information:** This neighborhood pubbrewery will celebrate its second anniversary soon. For its first anniversary in spring 1989, they produced a palate-pleasing Dunkel Weizen. Chicago Vice is available only from May to September at Goose Island, and by

the keg for special occasions. Brewmaster Victor Ecimovich III proudly notes that Chicago Vice won the silver medal for wheat beers in the professional judging at the 1989 Great American Beer Festival.

**Brewer's Description:** A very traditional, pale gold beer, partially filtered, with a yeast-haze and a good, foamy head. The aroma is yeasty-phenol and clovelike. The definite wheat malt flavors are balanced by delicate hopping.

**Our Impressions:** At the Great Taste of the Midwest beer festival in Madison in September 1989, we had a chance to sample this beer. It was a pale golden color and featured a truly authentic estery-banana flavor with spicy undertones.

**Brewer:** Hart Brewing Co., Kalama, Wash.

**Product:** Pyramid Wheaten Ale®

**General Information:** Opened in 1984, this microbrewery serves tap accounts in the Seattle and Portland areas as well as bottling its product for the Pacific Northwest. They produce Pyramid Wheaten Ale® year-round, as it is their most popular product, especially on draft. During two hours in the kettle, hops are added in three charges. Hart claims to have been the first American brewery to produce a wheat beer regularly.

**Brewer's Description:** It has a medium gold color, moderate carbonation and a good creamy head. The delicate malty aroma also exhibits a slight fruitiness and an herbal hop character. The taste is round and gently smooth with a mild sweetness. Brewing Director Vince Cottone recommends a slice of lemon to bring out the beer's refreshing tartness.

**Our Impressions:** A deep golden color with moderate carbonation. The sweet aroma was almost candylike and slightly fruity. The beer's medium body was smooth and well-balanced. The sweet foretaste evolved into a dry, somewhat tart finish.

**Brewer:** Kelmer's Brewhouse, Santa Rosa, Calif.

**Product:** Krystal Wheat Beer.

**General Information:** Although originally brewed as a seasonal addition to this pubbrewery's selection, it is now available as one of their standard beers. In fact, it is the mildest brew they exhibit, having displaced a pale ale. Brewmaster Tim O'Day says that when novice drinkers ask for an American-style beer, the staff recommends they try the wheat beer because of its mild characteristics.

**Brewer's Description:** Very light straw color highlighted by its

moderate carbonation. The nose is pleasantly hoppy. The taste is clean, crisp and features just a trace of fruitiness. It is a well-balanced beer.

**Brewer:** Montana Beverage Ltd., Helena, Mont.

**Product:** Kessler Wheat

**General Information:** President Bruce DeRosier says Kessler Wheat was brewed the first spring the brewery was open (1985) and has been a regular seasonal offering every summer since. To produce a true German wheat beer they use two German yeasts—a top-fermenting Weizen yeast initially, and a bottom-fermenting yeast at the time of krausening. DeRosier also notes that the beer is unpasteurized and cold-filtered. It is available in their local market on draft and is bottled primarily for their Western markets. They also produce Eugener Weizen under contract for the Eugene City Brewing Co. in Eugene, Ore. The Eugene product features a different malt combination and is a little heavier than the Kessler Wheat.

**Brewer's Description:** Kessler Wheat is a light amber beer that has a slightly tart flavor and a very clean finish. It is a good summer thirst-quencher.

**Our Impressions:** We were unable to obtain the Kessler Wheat, but did find some Eugener Weizen (which is a slightly different brew). We found it to be a very deep gold color, approaching amber. It poured with a big, frothy head and was highly carbonated. The aroma was citric in character. The flavor was sweet, smooth and slightly bananalike.

**Brewer:** Redhook Ale Brewery, Seattle, Wash.

**Product:** Wheat Hook Wheaten Ale.

**General Information:** Redhook introduced this beer in summer 1989 as a seasonal product, and plans to continue the practice in future years. Brewmaster Al Triplett explains that he intentionally set out to brew a wheat beer that was not German in character. Instead, the beer features English ale yeast and wheat malt, which do not produce the traditional spicy or tart

character. The wheat adds a dryness to the beer. Distribution is limited to the Pacific Northwest, and the product may be found in bottles and on draft (in both filtered and unfiltered versions).

**Brewer's Description:** Triplett explains, "I wanted a beer with a dry finish that brings out the delicate wheat flavor on the sides of the tongue. I was shooting for a little wheat flavor, not a lot."

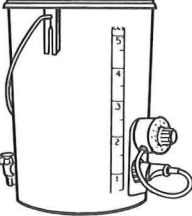
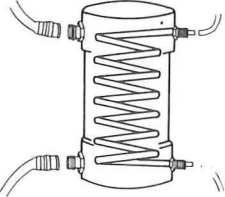
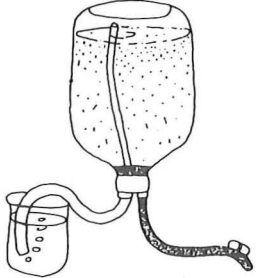
**Our Impressions:** Wheat Hook Wheaten Ale is pale gold in color

with average carbonation. It has an earthy aroma and this same character is evident in the taste. It is light-bodied and the flavor finishes fairly dry with a hint of astringency.

**Brewer:** Sprecher Brewing Co., Milwaukee, Wis.

**Product:** Sprecher Milwaukee Weiss.

**General Information:** Randy Sprecher, owner and brewmaster, has been delighted with the acceptance of his microbrewery's

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## The 1990 Special Hop Issue

*is looking for beer and brewing enthusiasts, professional and amateur, to contribute articles. Possible subjects include:*

• growing hops	• recipes, charts and tables	• dry hopping
• measuring and analyzing hops	• experimental hops	• the pros and cons of aging hops
	• hop oils and extracts	

Contact Associate Editor Laura Allbritten, *zymurgy*,  
PO Box 287, Boulder, CO 80306-0287 or phone  
(303) 447-0816. **Article deadline is June 1.**

products. The brewery opened in January 1986, and Milwaukee Weiss was first brewed that summer. It is available on tap in the Milwaukee and Madison areas, and is more widely distributed in pint and liter bottles. While the Milwaukee Weiss is a regular product, Sprecher also brews a Dunkel Weizen on a seasonal basis.

**Brewer's Description:** The beer is filtered, and therefore exhibits a

bright amber color. It has medium to low carbonation and a good head. The aroma is dominated by a fruity wheat bouquet. The dominant flavor is that of wheat, with a moderately sweet finish. We call it "liquid Wheaties™."

**Brewer:** Stoudt Brewing Co., Adamstown, Pa.

**Product:** Stoudt Weizen.

**General Information:** This

brewery's first-ever wheat beer won the gold medal in the professional judging at the 1989 Great American Beer Festival. Brewer Tom Krause states that all versions of this beer, both keg and bottled, are unfiltered. A German wheat-beer yeast is used in the fermentation. Chances are good that it will be brewed again for next summer.

**Brewer's Description:** Krause says the beer is very pale with a "white" appearance caused by the yeast in the finished product. It has a very fruity nose and flavor. The beer is smooth and features good head retention.

**Brewer:** Widmer Brewing Co., Portland, Ore.

**Product:** Widmer Weizen and Hefeweizen.

**General Information:** Brewer George Wehn reports that the filtered Weizen is this brewery's most popular beer. About three years ago, in response to requests from some of their accounts, they made the unfiltered Hefeweizen available. It is now second in popularity only to the Weizen beer. Both beers are fermented with a German yeast carried to this country by President Kurt Widmer. At this point, the beer is sold only on draft and primarily in the Pacific Northwest.

**Brewer's Description:** Consistency is very important to Widmer, and these beers are no exception. They are lightly colored and feature a delicate hop aroma. The low bittering rate lets the wheat character come through and the beer is very smooth.

**Brewer:** Yakima Brewing and Malting Co., Yakima, Wash.

**Product:** Grant's White Bear Weiss.

**General Information:** This wheat beer is styled after the Weiss beers of Berlin, and is now brewed year-round after first being introduced in 1984. It is available in both kegs and bottles. This is the only one of Yakima's products that President and Brewmaster Bert Grant recommends be served cold, ideally between 36 and 38 degrees F (2 and 3 degrees C). They use their own

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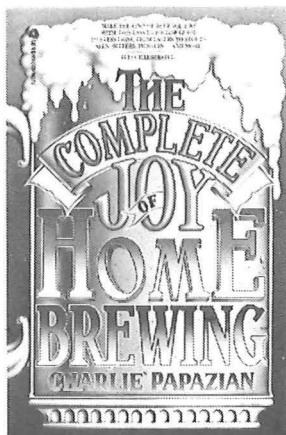
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top-fermenting Yakima yeast.

**Brewer's Description:** It is a very pale gold beer with a slight "veil" and a bit more carbonation than their other products. The nose is slightly hoppy with a light, fruity edge. The palate is very fruity from the wheat. The smooth mouth feel is punctuated by a dry finish.

**Our Impressions:** The color is pale to medium gold. The carbonation is not high for a wheat beer. The estery-fruity nose has spicy overtones, and the flavor is similar, being sweet up front and spicy at the finish.

### Homebrewing Wheat Beers

This is a lot easier than it used to be, because of the availability of several kinds of wheat beer extract that were not on the market a few short years ago. We have had good luck with the Briess extracts noted in the recipe that follows. The Briess Malting Co. probably is this country's largest supplier of specialty grain malts to both commercial brewers and homebrewers. Their extract, known as "concentrated brewer's wort," is available in five-gallon plastic pails or 55-gallon drums. Anyone interested in trying this extract should contact their homebrew supplier to obtain it from Briess. We also suggest that you read "Wheat Beers" by Gary Bauer in *zymurgy* Spring 1989 (Vol. 12, No. 1) for more information on the craft of brewing wheat beers at home.

### Northern Ale Stars Weizenbock

This beer is named for our local homebrew club because we first brewed it at a meeting. It is faithful to the German examples we've had the pleasure to try (Maisel's Weizenbock is particularly noteworthy). Any top-fermenting yeast may be used, but to get the fruity-spicy character you've been reading about all through this article, use one of the German liquid Weizen cultures now available in the foil pouches.

#### Ingredients:

- 4 pounds Briess Weizen extract
- 3 pounds Briess Amber extract

- 4 ounces caramel (crystal) malt
- 2 ounces chocolate malt
- 1 ounce black patent malt
- 1.5 ounces Hallertauer hops (leaf)
- 1.5 ounces Tettnanger hops (pellet)
- Top-fermenting yeast

Steep the grain malts as you bring the brewing water to a boil, then strain. Add the extracts. Hop as follows: one ounce of Hallertauer and one ounce of Tettnanger for 60 minutes; one-half ounce of Tettnanger for 15 minutes; one-half ounce of Hallertauer for five minutes. We don't have a record of the O.G., but the F.G. was 1.010.

We've also had good luck mashing wheat beers. It has been our custom to use six-row pale malt for its higher enzyme content. Other than a longer time needed to achieve saccharification, we have not experienced some of the problems we've read about, such as extremely slow or "stuck" sparges.

### Sunset Weizen

#### Ingredients:

- 4 pounds six-row pale malt
- 4 pounds wheat malt
- 1 pound caramel (crystal) malt
- 3/4 ounce Cluster hops (pellets)
- 3/4 ounce Saaz hops (pellets)
- Top-fermenting yeast

We mashed this beer using a protein rest at 121 degrees F (49.5 degrees C) for 25 minutes before boosting to 150 degrees F (65.5 degrees C) over 15 minutes. We had to hold at this temperature for 2 3/4 hours before achieving conversion. The O.G. was 1.046, and the F.G. 1.011. The use of caramel malt contributes to a slightly deeper golden color and adds to the sweetness.

Don Hoag lives in Saginaw, Minn., and is on the American Homebrewers Association Board of Advisers. John Judd lives in Duluth, Minn., and is a lifetime member of CAMRA in Britain. As members of the Northern Ale Stars Homebrewers Guild, they have been brewing since 1982 and teaching homebrew classes together since 1983.

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# How to Build a Simple Counterpressure Bottle Filler

**H**ow many of you out there love to brew beer but hate to bottle it? If you're like me, you would jump at the chance to clean just one five-gallon stainless-steel soda canister and forego the monotonous task of removing stubborn labels and sterilizing more than 50 dirty beer bottles per batch. As if cleaning them weren't enough hassle, the bottles must then be filled and capped by hand.

This is a very time-consuming and messy process compared to siphoning an entire five-gallon batch into a keg, adding corn sugar and snapping a lid into place. When it comes to conditioning beer, it's plain to see that using kegs in lieu of bottles gives zymurgists even more opportunity to relax, not worry and have a (draft) homebrew!

Alas, I can hear the pessimists out there hollering, "Sure, kegged beer is fine, but what if I want to take

a few of my best efforts out to share with some friends? I'm not too excited about having to lug a boat anchor around with me, even if it is full of pale ale." Or, "How do I enter kegged beer in a competition? I bet the AHA would be delighted to receive a few hundred entries at five gallons apiece, wouldn't they?"

What are lazy brewers to do when faced with these dilemmas? First of all, stop worrying! With a few items from a good hardware store, it's possible to build a gadget that will transfer fully conditioned beer from a keg to a bottle with no significant CO<sub>2</sub> loss.

Not only will the filler solve the problem of having both bottle-conditioned and keg-conditioned beer, it will eliminate the yeast deposit normally found in bottled homebrew. This is especially important when you consider it may take a week or more for the yeast to fully settle in a beer being judged only a few days after shipment halfway across the country. I'm sure most of you will agree that a judge probably would be turned off by cloudy beer. I personally have seen one instance when a beer finished runner-up in the best-of-show round of a major competition even though it was essentially perfect. It's only flaw was a slight haze when compared to the winner. I found out later that it would have won without that sole defect!

## How Does the Filler Work?

If you dispense a beer from a tap system, what happens? The beer flows freely into the glass and a great

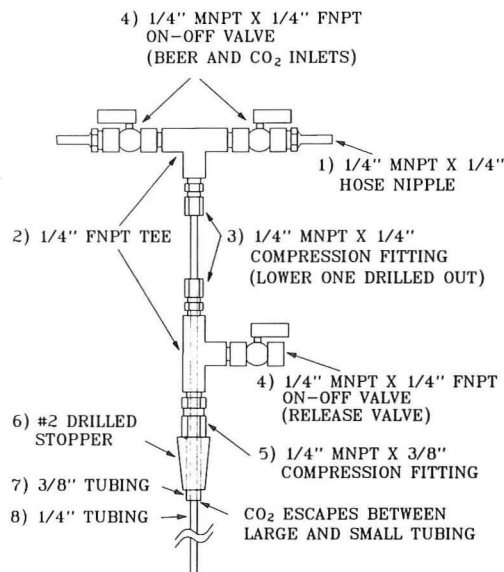
deal of foam is produced. As you know, foam is made up of thousands of tiny CO<sub>2</sub> bubbles. They are produced by the turbulence created by pouring and the sudden pressure drop the brew undergoes between the keg and glass. The CO<sub>2</sub> that makes up the foam eventually dissipates into the air and is lost forever. It shouldn't take long to ascertain that this is no big deal if you just want to drink a beer, but bad news if you want to put it in a bottle for safekeeping.

Fortunately for keg lovers, this is where the filler comes to the rescue. It works by: (1) using CO<sub>2</sub> counterpressure to slow the flow of beer into the bottle, (2) reducing the pressure differential between keg and bottle during transfer and (3) allowing gradual release of the pressure remaining in the bottle after filling. These three things greatly reduce the foam that would otherwise be produced while dispensing the beer into bottles. Therefore, nearly all loss of carbonation during the filling operation is avoided.

The filler is inserted into the bottle and used to purge it of oxygen with carbon dioxide gas. This is done to remove air in the bottle that might taint the beer's flavor through oxidation. The bottle then is filled with regulated CO<sub>2</sub> to obtain the same pressure as in the keg. When the valve that controls the beer flow is opened, surprisingly no beer comes out of the filler. This is because the beer is held back by the pressure in the bottle, which is equal to that in the keg. The CO<sub>2</sub> in the bottle is then slowly released and, now being slightly less than that in the keg, al-



**STEVE DANIELS**



**Figure 1.**

lows beer to begin flowing. When the bottle is full, the beer flow is stopped and the remaining pressure is allowed to escape gradually. The filler is then removed and the bottle is capped as usual.

### How to Make One

The following brass items are available at most hardware or home improvement stores (Note: NPT is pipe thread) :

- (1) Two 1/4-inch male NPT (MNPT) x 1/4-inch hose fittings
- (2) Two 1/4-inch female NPT (FNPT) tees
- (3) Two 1/4-inch male NPT x 1/4 inch compression fittings
- (4) Three 1/4-inch male NPT x 1/4 inch female NPT on-off valves
- (5) One 1/4-inch male NPT x 3/8 inch compression fitting
- (6) One No. 2 drilled rubber stopper (from homebrew supply store)

In addition to the above, get a 5/16-inch hose tee for the modification of the CO<sub>2</sub> line explained later.

Get the following tubing from a good fabrication shop. They can be found in the Yellow Pages under metal fabricators or sheet metal. Even if they don't have what you're looking for they can refer you to someone who does.

- (7) One 18-inch long piece of 1/4-inch stainless-steel tubing

- (8) One two-inch long piece of 3/8-inch stainless-steel tubing

Assemble the filler according to Diagram 1. Make sure to wrap a few turns of Teflon tape around all the male threads prior to joining the pieces to ensure a leak-proof seal.

Note that the 1/4-inch stainless tubing passes through the entire length of the filler. To accomplish this it will be necessary to enlarge the hole in one of the 1/4-inch x 1/4-inch compression fittings so the tubing can pass freely through it. Enlarge the hole by removing the nut and ferrule from the fitting and placing the fitting in a vice. Drill the hole out to just over 1/4 inch with a hand drill (it also

may be necessary to repeat this step with the 1/4-inch male NPT x 3/8-inch compression fitting, depending on the manufacturer).

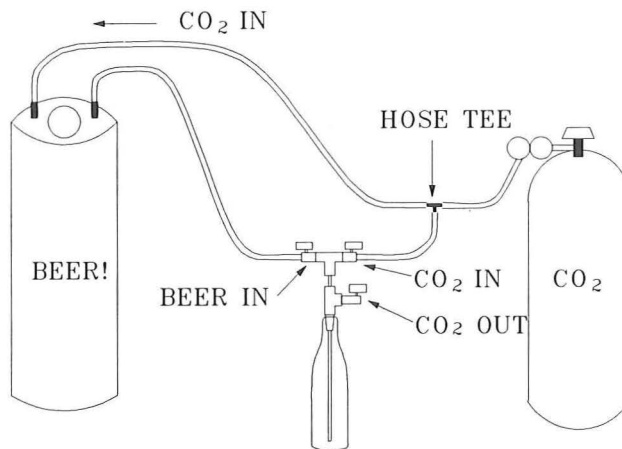
Take care to tighten the ferrule nut on the drilled 1/4-inch x 1/4-inch fitting just enough to keep it from leaking. This makes it possible to adjust the length of the 1/4-inch tubing to fit the height of the bottles being used by loosening the nut and sliding the tubing in or out as necessary. If over-tightened, the ferrule will crimp the tubing and it will be impossible to adjust its length. If available, use a plastic ferrule to prevent tube crimping, but a metal one may be used with a little care.

### How to Use It

- (1) Make sure the beer is well-chilled before attempting a transfer. It should be no warmer than 40 degrees F (4.5 degrees C) or excessive foaming will result. Lightly carbonated beers such as traditional ale can be bottled at up to 50 degrees F (10 degrees C) with satisfactory results.

- (2) Turn all the valves on the filler off before connecting the hoses to it. This may prevent a mess down the road. Adjust the length of the 1/4-inch tube so that it is about 1/4 inch above the bottom of the bottle when inserted into it.

- (3) Use the 5/16-inch plastic hose tee to run a CO<sub>2</sub> line to both the keg inlet and the



**Figure 2.**

filler. Set the pressure at 12 to 15 using the regulator. Run a hose from the keg outlet to the filler. It is recommended that screw-type hose clamps be used to secure all connections. Check all hoses and fittings for leaks and tighten as necessary. When finished the set-up should look like Figure 2.

(4) Insert the filler into the bottle and hold it down firmly. Open the CO<sub>2</sub> valve and the release valve on

the filler. You should hear gas escaping from the release valve.

(5) After the bottle has been purged for five or 10 seconds, close the release valve and allow the bottle to pressurize. This will only take a few seconds.

(6) Close the CO<sub>2</sub> valve and open the beer valve. There should be no beer flowing at this time because of the higher pressure in the bottle.

(7) *Slowly* crack open the release

valve and allow the gas to trickle out. The beer should begin flowing at this time.

(8) Adjust the flow of beer by opening or closing the release valve to obtain an optimum flow rate with minimum foaming. This will take a little practice at first but is fairly easy to get the hang of. The beer will be more forgiving as far as foaming goes after the third or fourth bottle. If the beer does foam more than desired at first, just allow the foam to escape through the release valve till the bottle is filled to the desired level with clear beer.

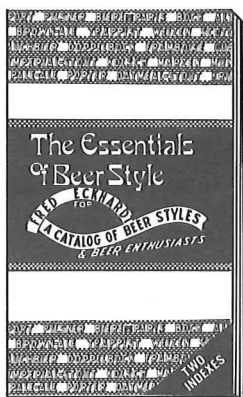
(9) When the beer is about 1/2 inch from the top, simply turn off the beer valve and allow the remaining pressure in the bottle to escape through the release valve.

(10) Remove the filler and cap the bottle immediately. You may wish to bump the bottle slightly to create just enough foam to purge the last trace of oxygen from the neck of the bottle prior to capping.

(11) When finished, rinse the capper with hot water. It can be sterilized with chlorine bleach solution (one-half ounce per gallon of water) prior to bottling.

I have been using this type of setup for more than three years and have had great success producing bottle after bottle of brilliant, yeast-free beer with the same carbonation as its kegged counterpart. In fact, I've found it so useful that it's had the same influence on me as my remote-controlled television. Once I got one, I couldn't imagine having to get along without it!

Steve Daniel lives in League City, Texas, and is a member of the Foam Rangers Homebrew Club of Houston. His experience as a laboratory technician has aided him in the technical aspects of brewing. He started brewing in college as an inexpensive way to obtain beer. It then became a hobby and now he's in pursuit of the perfect lager. The walls of Daniel's study lend credence to his brewing ability—he has earned more than 30 awards from across the country, including five from the AHA Nationals.



*The Essentials of Beer Style* is an ideal handbook for the serious beer enthusiast, and an unparalleled source of hard-to-find information about the process of brewing the world's great beers. It is an indispensable reference tool for small brewers, home brewers, and beer importers and distributors in their search for information on rare or obscure beer types.

For those who want to know more about beer tasting, the final third of the book is a full and complete handbook on that subject—a gold mine of information for aspiring beer judges.

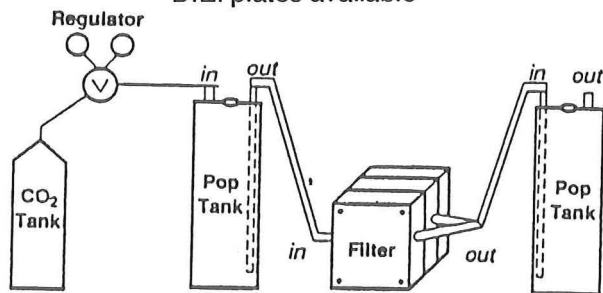


*The Essentials of Beer Style: A Catalog of Classic Beer Styles for Brewers & Beer Enthusiasts*, Fred Eckhardt, 224 pages. At your favorite homebrew supply shop or order direct from Fred Eckhardt Communications, P.O. Box 546, Portland OR 97207. \$14.95, plus \$2.00 shipping. Wholesale inquiries invited.

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## FOR THE BEGINNER

MONICA FAVRE  
TRACY LOYSEN

# Easy Hops

*Authors' note: We're writing this for malt extract brewers who want to do more than follow the directions on a can, but who rely on basic brewing techniques and equipment and ferment their beer at room temperature. Accordingly, we are directing this discussion to people who boil only part of their wort (vs. full-wort boil). We also are basing our figures on boiling the wort for an hour, although we recognize there are many different opinions about how long the boil should be.*



ave you ever come across references to AAUs or HBUs and wondered what those initials stand for and what they have to do with beer? Maybe you've wondered how to use a recipe that sounds perfect except that it uses hop pellets and all you have are whole hops. Or maybe you've been uncertain about what to do when you get home with a can of malt extract, only to realize it is hopped when your recipe calls for unhopped.

These are some of the questions that have puzzled us during our brewing endeavors. So we went in search of answers, with the goal of understanding the differences between hops of many varieties and forms. Ultimately, we wanted to know how we could convert one form to any other form.

Our panelled quarters, with their dusty tomes, yielded up some interesting information. Before we begin discussing different forms and

amounts of hops, though, some explanations are in order.

### Characteristics of Hops

What exactly are hops and what do they do?

In their original form, hops are green, conelike flowers that grow on vines. They contribute three major characteristics to beer: bitterness, flavor and aroma. All hops have these three characteristics. Which ones show up in your beer depends on how long you boil the hops. Aroma is evident immediately, through about the first 10 minutes. After about 10 minutes into the boil, aroma is lost and hops start contributing flavor. Flavor drops off after about 30 minutes, which is about the time hop bitterness makes its appearance. By the end of a one-hour boil, hops are contributing maximum bitterness. See the diagram below:

While all hops work basically the same when boiled, they are not the same in other respects. Different varieties have different amounts of alpha acids (the component that contributes bitterness) and different kinds of hop oils, which contribute flavor and aroma. (There aren't different kinds of bitterness, just different degrees of it.)

### Hop Forms

Homebrewers talk about hops in several different terms: whole hops, hop pellets, Homebrew Bittering Units, hopped malt extract or any combination of these options.

**Whole hops** simply are dried hop flowers. **Hop pellets** are made from pulverized and compressed hop flowers. Nothing has been added to them; the natural oils and resins in hops hold them together. We won't get into the advantages and disadvantages of these compared to whole hops; both work as long as they're fresh.

**Hopped malt extract:** Some malt-extract manufacturers add hops to their product for you, usually in the form of hop extract. Hop extract contributes only bitterness, not flavor or aroma, so you should add hops for these characteristics if you want them in your beer. (Even if your extract contains aroma and/or flavor hops, you'll lose these characteristics if you boil the extract for any length of time.) Many homebrewers add additional bittering hops to a brew with hopped extract, depending on their personal preferences.

**Homebrew Bittering Units (HBUs)** are a measurement of hop bitterness for any variety and in any

Minutes:	10	30	60
Hop contribution:	Aroma	Flavor	Bitterness

of the above-mentioned forms. HBUs allow you to talk a common language with other homebrewers when discussing the bittering aspect of hops.

### How to Use a Recipe With HBUs

If you know the HBUs called for in the recipe, you can substitute the same number of whatever variety you want with the confidence that they'll produce roughly the same amount of bitterness.

So what are these HBUs, exactly? Aren't they complicated (and therefore annoying) to figure out? How many of you have just glanced over the explanation of HBUs at the end of Charlie Papazian's *World of Worts* column, believing it too difficult to understand? HBUs are a standardized unit of potential bitterness—you figure out how many you have in a batch of beer based on how bitter the variety of hops is, and how much you're using. The formula is simple:

$$\begin{aligned} &\text{percent alpha acid} \times \\ &\text{number of ounces} \\ &= \text{total HBUs for the batch of beer} \end{aligned}$$

What if you're reading a recipe for a seven-gallon batch and you want to make a five-gallon batch? It's still simple, requiring only that you divide the number of HBUs by the number of gallons to get a per-gallon figure. Then multiply that by however many gallons you want to make.

$$\begin{aligned} &\text{Their HBUs} + \text{their batch size} \times \\ &\text{your batch size} \\ &= \text{total HBUs to add} \end{aligned}$$

There is one more complication. What if you're trying to figure out the HBUs used in a recipe and you see that hops were added at several different points during the brewing process? Because boiling time affects hop utilization, you can't just add everything up. So how to figure HBUs? There aren't any hard and fast rules about this, but we can provide some general guidelines. If the hops are to be boiled 30 to 60 minutes, they will contribute roughly the same amount of bitterness. For hops that are boiled 15 to 30 minutes, you'll be safe estimating about half the bittering value. Any hops added for 15 minutes or less will have negligible

effects on bitterness—these are in the recipe for flavor and/or aroma.

### Converting Different Hop Varieties

If you're looking at a recipe that calls for three ounces of Hallertauer hops, and you have Tettnanger in the freezer and want to use it instead, can you just substitute three ounces of what you have and come up with the same amount of bitterness? An easy way to figure this out is to convert the recipe's bittering hops to HBUs. Then you'll know how many HBUs you have to add to your wort. To do this, all you need is a list of the average alpha-acid content of the hop varieties used. The AHA provides this information for many different hop varieties in "The Zymurgist's Guide to Hops." (See page 10.)

### Converting Whole and Pellet Hops

What if you don't want to mess with HBUs, but want to substitute hop pellets for whole hops of the same variety, or vice versa? The difference between them in terms of bitterness is very minor. Both pellet and whole hops have the same alpha-acid content. Because the hop resins have been broken up in hop pellets, pellets will generally contribute 10 to 15 percent more bitterness than their whole counterparts. This difference is small enough to ignore if you want to. Substitute them ounce for ounce or, if you feel like it, you can throw in a few more whole hops to account for their slightly less efficient utilization.

### Converting Hopped and Unhopped Malt Extract

Your recipe calls for hopped malt extract and you want to use unhopped extract (or the other way around). How much hops or hopped malt extract will you need to add to match the bitterness in the recipe?

First you need to know how many bitterness units are in the cans of hopped extract. Unfortunately, the manufacturers don't provide this information with their products. The only source of information is a chart on malt extracts in the 1986 Special

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Issue of *zymurgy* (Vol. 9, No. 4). This chart lists the number of HBUs in various homebrew kits. An updated version of the chart will be published in the 1990 Special Issue on hops next fall.

### Flavor and Aroma Hops (Finishing Hops)

Beyond their differing bitterness levels, hop varieties have distinctive aroma and flavor characteristics. Because aroma hops don't contribute significant bitterness (when they are not boiled long enough), you don't have to worry about bitterness levels when using the one-quarter to one ounce called for in many five-gallon recipes. Some noteworthy aroma and flavor characteristics of hops are:

- Herbal-spicy: Hallertauer, Saaz, Tettnanger
- Citrusy-floral: Cascades
- Unpleasant (so only use these for bitterness): Bullion, Brewer's Gold, Talisman Cluster
- Uniquely British (for pale ales, for example): Goldings, Fuggles

To learn more about what aromas you like in hops, you might go to your homebrew retail shop and smell them. You also should be aware that Don Hoag has put together some great charts in past *zymurgys* (Vol. 11, No. 1 and Vol. 11, No. 5) that reveal which hops are used in many varieties of commercial porters and stouts.

### Writing Your own Recipe

The discussion so far has centered around reading other people's recipes and being able to interpret and modify them. What if you want to write your own recipe? In our last article, we provided some general guidelines for amounts of hops to use with different styles. We based these amounts on hops of average bitterness.

Now that you know about HBUs, you can use hops of any bitterness (it's still wise to be careful with those really bitter hops). For your reference, here is a list of average HBUs for many different beer styles for a five-gallon batch. (This list assumes a one-hour boil in two gallons of water

with malt extract for a five-gallon batch. Cut back about 10 to 15 percent for a full wort boil.)

Example:

Pale Ale with 13 total HBUs

Hops: Willamette with 5 percent alpha acid

Added at 60, 20 and two minutes (before the end of the boil)

Looking at the chart below, 13 HBU's fall in the middle of the pale ale range. We want to add them at different times so they will express all their characteristics—bitterness, flavor and aroma.

To figure out how many hops to add for bitterness, you only have to consider the 60- and 20-minute additions, because the two-minute addition is too short to contribute to bitterness. You need to decide on an amount for one of the other additions; on the basis of this amount you can calculate how many hops to add to end up with a total of 13 HBUs. We decided on one-half ounce at 20 minutes.

Remember that because these hops are added 20 minutes before the end of the boil, they will only contribute about half of their total HBUs. Use the following formula.

Percent alpha acid x ounces of  
hops x utilization factor = HBU's

so


$$5 \times 0.5 \times 0.5 = 1.25$$

We need a total of 13 HBUs for our pale ale.

$$13 - 1.25 = 11.75$$

To find the amount of hops to be used at 60 minutes (totaling 11.75 HBUs), divide the desired HBUs by the alpha acid percent of the hops. 11.75 HBUs divided by 5 percent alpha acid equals 2.35 ounces. We approximated and added 2.25 ounces at 60 minutes.

### Conclusion

Remember to buy fresh hops (in any form) and keep them in the freezer in airtight plastic bags. Make sure the alpha-acid content is marked on the bag. Once you grasp the fundamentals, there are thousands of options awaiting you. Keep in mind you can do whatever you want. Don't let anyone intimidate you into adding more or less hops than you want because that's what a "real" beer tastes like. Tune in next issue for an investigation into malts and grains. Same batch time, same batch channel. 

Monica Favre and Tracy Loysen (Travre Brewing Co.) are former AHA staff members. They hope to brew Belgian beers and sour mash beers in the future. They don't want to discuss any personal information as it is all rather vague, contradictory and incriminating.

ALES	HBU	LAGERS	HBU
Alts	10-20	Traditional Bock	8-12
Kölsch	8-15	Doppelbock	10-15
Barley Wine	15-40	Continental Dark	7-11
English Brown Ale	5-10	Export	8-12
English Mild	4-8	Munich	7-13
Texas Brown	10-20	Lite Pilsener	4-6
Cream Ale	4-7	American Pilsener	4-6
Classic Pale Ale	10-17	European Pils	8-13
India Pale Ale (IPA)	13-20	Rauchbier	7-10
Porter	8-12	Steam	8-12
Scotch Ale	10-18	Vienna/Oktobertfest	8-12
Dry Stout	8-15		
Sweet Stout	5-10		
Imperial Stout	15-40		
Berliner Weisse	2-3		
Bavarian Weizen	4-7		

HBUs are for U.S.  
five-gallon batches

# WINNERS CIRCLE

DAVID EDGAR



Now that it's spring, the Winners Circle looks ahead to summertime, when the drinking is easy. So hop to it now, while you still have a couple of months of cool brewing weather left. Here are five recipes that won either the silver or bronze medal in their respective categories in the 1989 National Homebrew Competition.

What better way to celebrate the Fourth of July than to treat yourself and your friends to a homebrewed taste of that good old all-American steam beer! Or how about a nice, crisp, Continental dark to cool you off on a hot summer night? Yes, those dog days are almost upon us. It'll be hot and muggy—but that's OK if you have a supply of your own wheat beer on hand. A *Weisse* might, indeed, be very nice. So what are you waiting for? Get those worts boiling and those airlocks a-bubblin', so when it's sweltering you'll be smiling.

## STEAM

### Second Place

Robert Carter

Watsonville, California

"Amber"

#### Ingredients for 5 gallons

- 8 pounds Klages malt
- 1 pound crystal malt
- 1 ounce Northern Brewer hops (60 minutes)
- 1 ounce Cascade hops (10 minutes)
- 1/4 ounce Cascade hops (dry hop)
- Brewer's Choice liquid lager yeast
- 3/4 cup corn sugar to prime

- Original specific gravity: 1.050
- Terminal specific gravity: 1.010
- Age when judged (since bottling): two months
- Boiling time: 60 minutes
- Duration of fermentation: one week
- Approximate temperature of fermentation: 60 degrees F (15.5 degrees C)
- Secondary fermentation: two weeks
- Type of fermenter: plastic and glass

#### Brewer's specifics

All grains mashed at 155 degrees F (68.5 degrees C) for 60 minutes and sparged with four gallons of water at 170 degrees F (76.5 degrees C).

For a copy of "Outline for Intermediate Brewing," see the "Free from the AHA" ad, page 10.

#### Judges' comments

"Needs a bit more hop aroma. A bit too estery. Excellent clarity; good head retention. Overall, very good."

"Fruity aroma; nice malt, hops a bit too low. Malt is missing in the flavor and body. The hops balance what malt is present, but would need to be increased to match what should be there. Could stand a touch more carbonation. Very slight oxidation."

"Aroma—nice hops and malt. Appearance—good. Flavor—slightly more alelike than appropriate for style. Overall—nice effort."

### Third Place

Phil Markowski

New Haven, Connecticut

"No Nuggets"

#### Ingredients for 5 gallons

- 9 pounds English two-row pale malt
- 14 ounces crystal malt
- 3 ounces toasted pale malt
- 1 ounce roasted barley
- 1 1/3 ounces Cascade hops (60 minutes)
- 1 ounce Cluster hops (60 minutes)
- 1/4 ounce Cluster hops (10 minutes)
- 1/4 ounce Cascade hops (10 minutes)
- 1/2 ounce Cascade hops (dry hop)
- Wyeast No. 2042 Danish lager yeast
- 1 1/4 teaspoon gypsum
- 2/3 cup dried malt extract for priming

- Original specific gravity: 1.052
- Terminal specific gravity: 1.015
- Age when judged (since bottling): 3 1/2 months
- Boiling time: 60 minutes
- Duration of fermentation: two weeks
- Approximate temperature of fermentation: 59 degrees F (15 degrees C)
- Secondary fermentation: three weeks
- Type of fermenter: glass

#### Brewer's specifics

Single-step infusion mash. Strike grains with 2 3/4 gallons of water at 170 degrees F (76.5 degrees C). Hold temperature at 152 degrees F (66.5 degrees C) for 70 minutes. Sparge with 4 1/2 gallons of water at 172 degrees F (78 degrees C).

#### Judges' comments

"Aroma—well-balanced between malt and hops. Appearance—good color; nice fine bead. Flavor—malt and

hops are strong. Overall—well-balanced, good steam flavor.”

“Fruity, malty aroma. Crystal clear, perhaps a tad dark. Alcoholic. Bittering just a bit too aggressive, hangs around too long.”

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## CONTINENTAL DARK

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**Second Place**  
**Mary Frances Richardson**  
**St. Catharines, Ontario**  
**“Dark Star”**

### Ingredients for 6 gallons

5 1/2 pounds pale malt  
4 1/2 pounds Munich malt  
6 ounces crystal malt  
3 ounces chocolate malt  
1 1/4 ounces Hersbrucker hops (60 minutes)  
1/2 ounce Perle hops (60 minutes)  
1/8 ounce Tettnanger hops (20 minutes)  
1/8 ounce Perle hops (20 minutes)  
1/8 ounce Saaz hops (20 minutes)  
1/4 ounce Tettnanger hops (five minutes)  
brewery lager yeast  
1 teaspoon gypsum  
1/2 teaspoon Irish moss  
7/8 cup dextrose for priming

- Original specific gravity: 1.052
- Terminal specific gravity: 1.012
- Age when judged (since bottling): two months
- Boiling time: 90 minutes
- Duration of fermentation: three weeks
- Approximate temperature of fermentation: 55 degrees F (12.5 degrees C)
- Secondary fermentation: three weeks
- Type of fermenter: glass

### Brewer's specifics

Water preparation: boiled 15 minutes, cooled and raked; then 1 teaspoon gypsum added.

### Judges' comments

“Aroma—complex. Malt is OK; needs hops; grainy. Appearance—head goes away fast. Flavor—Malt is OK. Needs a kiss of hops. Higher alcohols evident; slightly creamy. Good use of chocolate malts; needs a bit more conditioning. Aftertaste OK. Overall—a good beer. Slight wild yeast flavor (fusel alcohol); also needs more hops.”

“Aroma—grainy; some fruitiness; some hops present.

Appearance—beautiful; clarity is lovely. Flavor—chocolate up front, then flavor stops. Overall—clean brew. Alelike characteristics present—perhaps the fermentation temperature was too high?”

---

## EXPORT

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**Second Place**  
**Rodney Howard**  
**Oakley, California**  
**“Colby's Export”**

### Ingredients for 6 gallons

6 3/4 pounds pale malt  
2 pounds Munich malt  
1/4 pound wheat malt  
3/4 ounce Saaz hops (60 minutes)  
1 1/2 ounces Saaz hops (30 minutes)  
3/4 ounce Saaz hops (15 minutes)  
1 ounce Saaz hops (finish)  
Whitbread lager yeast  
CO<sub>2</sub> added

- Original specific gravity: 1.054
- Terminal specific gravity: not given
- Age when judged (since bottling): two months
- Boiling time: 60 minutes
- Duration of fermentation: two weeks
- Approximate temperature of fermentation: 55 degrees F (12.5 degrees C)
- Secondary fermentation: four weeks at 45 degrees F (7 degrees C)
- Type of fermenter: glass

### Brewer's specifics

Dough in grains with three gallons 70-degree-F (21-degree-C) water for 20 minutes. Raise temperature to 122 degrees F (50 degrees C). Once temperature is achieved, immediately remove heaviest 40 percent of mash to mash kettle. Bring 40 percent mash to 158 degrees F (70 degrees C) and hold for 10 minutes. Increase to boil and immediately add back to 122-degree-F (50-degree-C) mash. Raise temperature to 156 degrees F (69 degrees C). Hold for 15 minutes. Start testing for starch conversion. Once conversion is complete start the sparging process by filling sparge vessel with 172-degree-F (79-degree-C) water one inch above false bottom. Add grains and wort until full. Sparge until clear. Flow wort into boiler until wort is two inches above a level grain bed. At this point start the flame on the boiler. Slowly start the flow of 172-degree-F (79-degree-C) water over the grain bed until the specific gravity of the

wort exiting the vessel is 1.008 or lower. Boil.

#### Judges' comments

"Excellent malt nose. Good color, great flavor; could be slightly low in hops. This is a fabulous beer. I wish I had another."

"Nice aroma; good balance. Good color, clarity and head retention. Nice smooth, clean flavor. Very drinkable—send me the recipe! Keep up the good work!"

"Aroma—appropriate for class. Appearance—very clear, fair head retention. Flavor—very good, slight but-tery aftertaste. Overall—reminiscent of a commercial brew."

## WHEAT

### Second Place

Quentin B. Smith

Rohnert Park, California

"Beat Your Feet Wheat"

#### Ingredients for 5 gallons

6 pounds Klages malt

6 pounds malted wheat

1/4 ounce Chinook hops (60 minutes)

1/8 ounce Chinook hops (30 minutes)

1/12 ounce Eroica hops (30 minutes)

1/6 ounce Tettnanger hops (five minutes)

2 teaspoon Irish moss (15 minutes)

Wyeast No. 2035 New Ulm lager yeast  
1 cup corn sugar to prime

- Original specific gravity: 1.051
- Terminal specific gravity: 1.010
- Age when judged (since bottling): three months
- Boiling time: 75 minutes
- Duration of fermentation: one week
- Approximate temperature of fermentation: 55 degrees F (13 degrees C)
- Secondary fermentation: three weeks
- Type of fermenter: plastic and glass

#### Brewer's specifics

Heat three gallons water to 140 degrees F (60 degrees C) for protein rest at 120 degrees F (49 degrees C) for 60 minutes. Raise to 153 degrees F (67 degrees C) and hold for 60 minutes; raise to 158 degrees F (70 degrees C) for 30 minutes; raise to 170 degrees F (76.5 degrees C) and sparge with 170-degree-F (76.5-degree-C) water.

#### Judges' comments

"Fine balance in aroma. One of the best brews tonight. I like the light amber color. Very nice flavor—dry, bitter aftertaste. Use less hops. Head retention could have been better, but otherwise very nice."

"Aroma—maybe DMS, but not overpowering. Appearance—beautiful, excellent clarity. Flavor—barley malt, rather than wheat malt domination. Overall—pleasant but not assertive."

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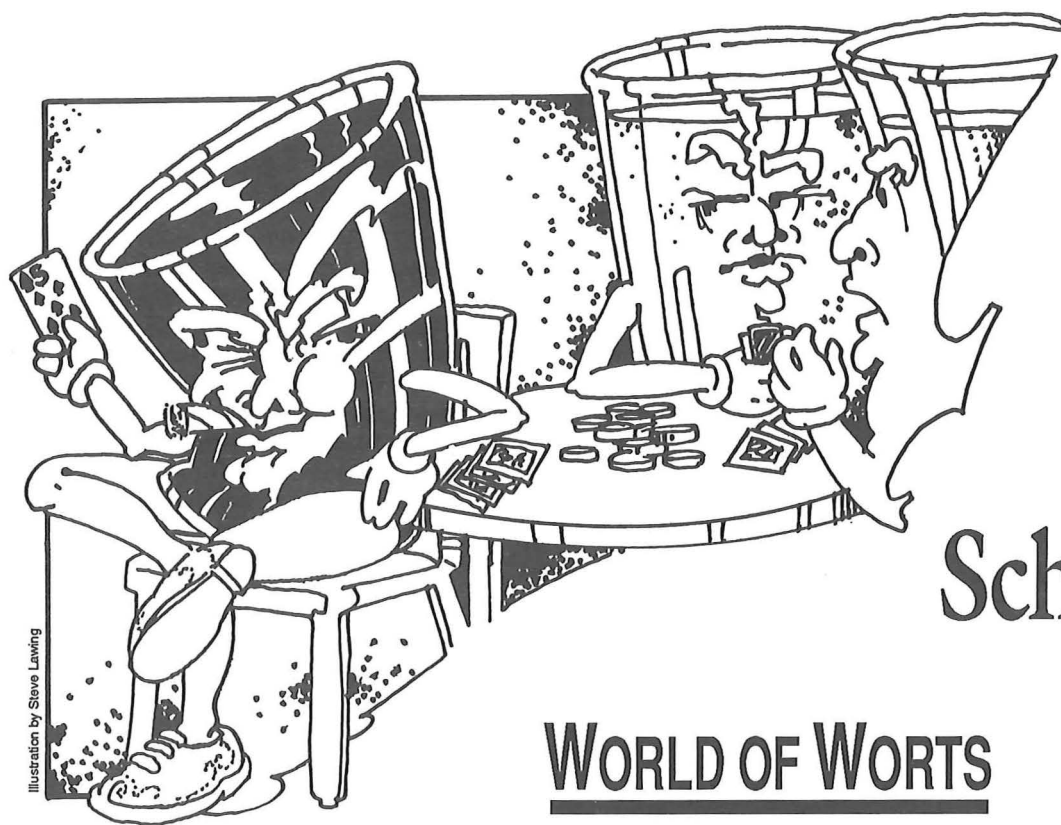
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# Five of Spades Schwarzbier

## WORLD OF WORDS

CHARLIE PAPAIZIAN

**H**mmmm. This is a new one for you. Believe it or not, there isn't even a category for this beer in the National Competition and it's made only from malted barley, hops, yeast and water. No weird ingredients. In fact Schwarzbier (literally interpreted from the German as "black beer") is indeed a traditional black lager, but difficult to find even in Germany. I found it in Franconia, Bavaria, at a few small, local brewpubs.

It was fantastic. Black as the five of spades, this velvety lager has the earthy character of black malt without a burnt or charcoal predominance.

One of the secrets is in the hopping. Use real German-grown hops whenever possible. They are unique in their spicy flavor and aroma. Their addition in the brew should be at carefully timed intervals for bitterness, flavor and aroma. This may be the most important factor in obtaining that German malt and hop synergism many beer enthusiasts refer to.

Use a good lager yeast. Ferment at cool temperatures. Although I've

used liquid Bavarian strains in the 60- to 70-degree-F (15.5- to 21-degree-C) range with excellent results, you can do even better with lagering at 45 to 55 degrees (7 to 10 degrees C) if you have the resources.

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

### Five of Spades Schwarzbier

#### Recipe for five gallons

- 3.3 pounds Hansberg (German dark) Bock malt extract or Bierkeller (German) Dark malt extract
- 1 3/4 pounds extra dark dried malt extract

or

Use light dried malt extract plus 1/3 pound crushed black malt

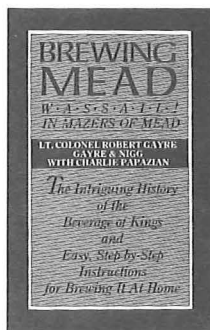
- 6 Homebrew Bittering Units (total) of hops for boiling and bitterness (I used Perle, although German Tettnanger, Hallertauer and Spalt, as well as Saaz are also very good.)
- 2/3 ounce Perle hops or German substitute
- 1 ounce Tettnanger hops
- 1/2 ounce Saaz hops
- 2 teaspoons gypsum if you have extremely soft water
- lager yeast for five gallons

### HOMEBREW BITTERING UNITS

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

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G131

3/4 cup corn sugar for bottle conditioning

- Original gravity: 1.040 to 1.044
- Final gravity: 1.008 to 1.012

Add the gypsum and malt extract to two gallons of water and boil with bittering hops for one full hour. After the first half hour of boiling add one-third ounce Perle hops. After another 15 minutes add one-third ounce Perle and one-half ounce Tettnanger hops. After 15 more minutes add one-half ounce Tettnanger and one-half ounce Saaz hops and steep these for two minutes. Strain and transfer the hot wort into two gallons of cold (preferably filtered) water in your sanitized fermenter.

Add more water to make five gallons. Cool to at least 70 degrees F (21 degrees C) and then add yeast. Ferment under the best lager conditions possible.

When fermentation is complete, add priming sugar and bottle. Wait two to four weeks and begin enjoying a rare German specialty beer.

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# DEAR PROFESSOR

PROFESSOR SURFEIT

## Dry Hopping Before or After?

Dear Professor,

I am a microbiology supervisor and president of a small but growing homebrew club. My concern in writing to you is about dry hopping. I have cultured some of the hop pellets and have isolated bacteria; namely, a bacillus species. They are gram positive rods, catalase positive and are aerobic spore formers. If I were to dry hop my secondary fermentation three to four days before priming and bottling, would there be a risk of contamination? I also have noted in a recipe of a reputable homebrewer that he adds aromatic hops at the beginning of fermentation and pitches yeast simultaneously. Again, is there a chance of contaminating the wort? Also, is there a noticeable difference in aroma between dry hopping and adding aroma hops at the start of fermentation? Frankly, I'm worried and not relaxed. Hopping to hear from you.

Cheers,  
Peter Usbeck  
Bay Shore, Long Island  
New York

Dear Peter,

Well, I'm going to answer your first question quite directly: Yes, there is a risk of contamination. To what degree I really can't say with any accuracy. After your beer is contaminated, the question might be: Will it affect

my beer? The answer to that is: probably not.

By the time your fermentation turns into beer, your brew should be pretty much deoxygenated, thus inhibiting the activity of the aerobic bacteria you identified. Chances are the alcohol and low pH (high acidity) of the beer also will inhibit growth.

To answer your second question, it's much more likely that spoilage organisms will grow in the oxygen-rich wort, with its higher pH and no inhibiting alcohol, than in the finished beer. Also, some of your more aromatic and volatile hop oils may be "scrubbed" out of solution by the evolution of carbon dioxide gas during the fermentation. Dry hopping is best done in the secondary phase of fermentation or in lagering.

Now, please relax. That's an order.

Don't worry, be hoppy,  
The Professor, Hb.D.

## In the Distillness of the Night

Dear Professor,

I have been brewing for 65 gallons worth of some very good beers, some great. I have a few questions. I have called the Chicago water district to get information on the water my area gets from Lake Michigan; obviously it is very similar to Milwaukee's. The

one thing that surprised me was that the chloride is often as high as 10 parts per million. Do you think this high concentration could cause an astringent flavor in the finished beers? The best beers I have brewed so far were made with distilled water. Would the carbon filtering devices on the market today solve this problem? At \$6 per five gallons of distilled water I would like a better solution.

My last questions involve filtering. Is there a realistic way for a homebrewer to filter beer? Are there any beer filtering devices on the market for the homebrewer? Would filtration increase the risk of contamination? Thanks in advance for your answers.

Studiously yours,  
Joe Janet  
Glenview, Illinois



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Dear Joe,

Ten parts per million is not enough to worry your sweet little wort about. Relax. And be aware that carbon filters will not take out chloride. Distilled water is fine for extract brews, but if you brew an all-grain beer with distilled water, you leach oxydates from your ingredients. They will in turn promote gushing in your beer. You should read up on adding minerals to prevent this if you ever decide to brew all-grain beer with distilled water.

Filtering? Take a gander at the Winter 1989 *zymurgy* (Vol. 12, No. 5) issue to get the latest scoop on filtering. There is some really nice equipment especially designed for the homebrewer. Sure, anytime you process beer there's a chance of contamination. You must take careful precautions to minimize contamination by being thoroughly familiar with sanitizing procedures.

Distilled crazy after all these beers,  
The Professor, Hb.D.

## Sticking Out Your Long Neck

Dear Professor,

I have noticed a resurgence of the long-neck beer bottle. Some breweries now have six-packs of such bottles, most of which are marked "non-returnable." However, some of the microbreweries bottle their beers in what look like returnable, usable bottles. Samuel Adams Boston Lager, Savannah Brewing's Colony XII Beer and August Schell Weiss Beer are examples. Are these safe for bottling homebrew? Are there any marks or other ways to tell if a bottle is designed for repeated use, or is it wiser to use only those from a 24-bottle non-returnable case?

Bottled up,  
Karl Menninger  
Petersburg, Illinois

Dear Karl,

Bottles used by the breweries you name look like the standard long-neck, but aren't. Breweries don't like the look of scuffed-up returnable bottles. The brand new, shiny bottles are much more attractive. The difference is in the weight of the bottle and thickness of the glass. There are

subtle visual differences, too.

They are as safe as other non-returnable bottles. But really, the safety factor is in the hands of you, the brewer. Never bottle too early. Use a hydrometer. Don't over-prime. And keep your bottle clean of post-fermentative bacteria and wild yeast.

Repsycholy yours,  
The Professor, Hb. D.

## Avoiding Overtime Runoffs

Dear Professor,

Why the seemingly magic figure of 170 degrees F (76.5 degrees C) for sparge water? Both dextrin and maltose are soluble in water and I can't see why just warm water wouldn't be OK.

Lately I have started to brew half extract, half mash and deal with about five pounds grain. After mashing, I ladle the goods into a plastic dishpan that has holes drilled in it so it functions as a strainer. This sits well in the top of my four-gallon boiler. I use the kitchen sink sprayer and sparge with hot tap water (which is 135 to 140 degrees F or 57 to 60 degrees C) until the rinse no longer shows the color of the roast grains or until the level in the boiling pot is manageable, accounting for having to add a can of malt extract.

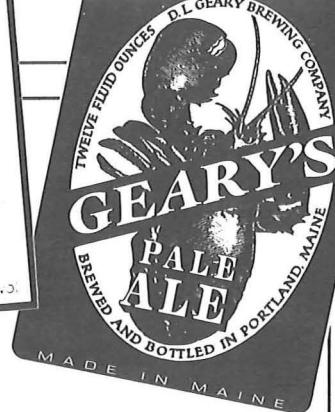
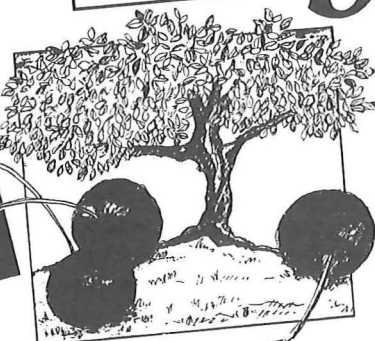
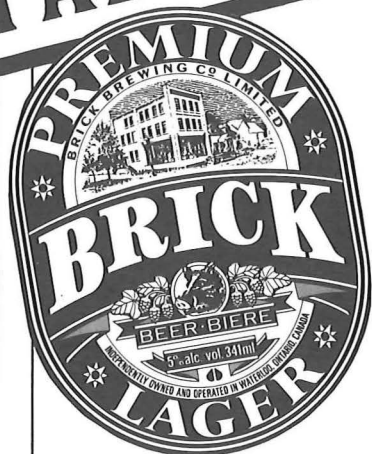
I have made over 100 brews in the past few years, each using two cans of extract. My mash-extract brews are a definite improvement, both in taste and body, and well worth the extra time and effort of mashing. Sparging, as always, is a problem. I would prefer not having to resort to the usual lauter-tun method with more containers to clean. I'd like to stay with simpler methods.

Your comments would be appreciated, especially something specific about the temperature of sparge water.

Sincerely,  
W. Scott Garland, M.D.  
Winston-Salem, North Carolina

Dear W. Scott,

Ahhhhh yes, but maltose is more soluble at 170 degrees F (76.5 degrees C) than at 130 degrees F (54.5 degrees C). And when you are running off that much sugar through that much grain,



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# *The New Brewer*

THE MAGAZINE FOR MICRO AND PUB-BREWERS

it's best to make your life easier and the runoff quicker. The upper limit is usually about 170 degrees F (76.5 degrees C) because above those temperatures you begin to pull out unwanted tannins that can contribute astringent and phenolic flavors to your brew.

No doubt about it. Your method works, but you could be extracting more from your grains. Some of those sugars are in the center of those broken malt pieces and it takes a while for them to make their way out. So don't be too hasty.

For a friendlier, tastier, safer world,  
The Professor, Hb.D.

## Root for Your Favorite Beer

Dear Professor,

Two bits, four bits, six bits a dollar. All for root beer stand up and holler. Hey Professor, please, please tell me what kind of ingredients I can use to make root beer without

resorting to commercial potions of root beer extract.

Dying to know,  
John B. Hires

Soda Spring, South Dakota

Dear John,

I once made a fantastically delicious "wort" of root beer from 2 1/2 gallons of water, three quarts of molasses, three ounces of sassafras bark, three ounces of sarsaparilla shavings, three ounces of wintergreen, one ounce shredded licorice root and one chopped vanilla bean. A hot tea was made with all the herbs bought from my local herb specialty shop.

Other herbs that would flavor your root-beer-style brew would be teaberry, deerberry, checkerberry, boxberry, spiceberry, clove, cinnamon, and anise.

If making an herbal beer with these types of "root beer" herbs, I prefer a malty, sweet brew rather than a hoppy, dry style of beer.

Try it, you'll like it,  
The Professor, Hb.D.

## Red Fruit at Night, Brewers Delight

Dear Professor,

In your column on mead in the Summer 1988 *zymurgy* (Vol. 11, No. 2) you mentioned that when you boiled the cactus fruit the "deep red color was quickly lost." Similarly, when I (and others) bottle mead from unboiled fruit it has a deep red color, which is retained at reasonable temperatures. When May approaches and the temperature begins to rise, the color fades quickly, and by mid-June the color is that of a slightly too-dark American premium beer. One January a friend gave his parents a bottle of the cactus mead to take home. They kept it in the refrigerator until late July, and when poured it retained all of the original color. The rest of the bottles in that batch had long since lost any trace of red.

I'm guessing that Mother Nature is using some substandard coloring agents in this product, either to cut costs or to comply with some nit-picking FDA regulations.

Mazers up,  
Jack Means  
Tucson, Arizona

Dear Jack,

Yeah Jack, don't worry though. If Mother Nature is using some form of substandard coloring agent in her fruits I am sure the government will find out about it and slap on a warning label so we are aware that the color may fade with age. Meanwhile I can only second-guess that the loss of color, especially red, is a clandestine communist plot to evade detection.

Not running,  
The Professor, Hb.D.

## Effects of High Altitude

Dear Professor,

What, if any, affect does altitude have on brewing? Does it affect mashing temperatures, yeast, fermentation or any other aspect of our favorite pastime? So far, I have not noticed any problems with my brew, but then again, I have yet to bottle any of my fine ale, let alone taste it.

Thank you for your time and help in this matter. I hope the answers are simple.

High on homebrew,  
Thomas C. Armstrong Hart  
Albuquerque, New Mexico

Dear Tom,

Yeah, I agree, let's keep it simple. You know that I live a mile high myself and for sure wort boils at about 190 degrees F (88 degrees C). My buddies and I make some darn nice brew with no special compensations for the altitude. For sure, relax and don't worry. If anything you might want to boil five or 10 minutes longer. The effect on fermentation or apparent carbonation in the bottle is negligible.

No mile-high gushers,  
The Professor, Hb.D.

## Bleach Corrosion

Dear Professor,

I recently began all-grain brewing and have found it necessary to use a wort chiller. I have the submersible copper type. My problem is finding a way to sanitize it. I soaked it in a bleach and water solution and noticed a significant deterioration of the copper tubing. Any suggestions would be appreciated.

Now, to change the subject, I've



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found a neat way of drawing samples for hydrometer readings. A 30 cc syringe (used in hospitals to flush feeding tubes) with a short length of plastic tubing on the end is quite convenient and easily sanitized. The syringe can be purchased at a medical supply store.

Keep up the good wort,  
Aaron M. Bailey  
Memphis, Tennessee

Dear Aaron,

A bleach soak will corrode just about any metal that's used in the brewing process. Keep its contact with copper brief; five or 10 minutes should be adequate. Overnight soaks will turn your copper sickly black and do nothing good for the taste of your beer.

Be careful,  
The Professor, Hb.D.

### A Full-Bodied Wedding

Dear Professor,

My fiancée and I are fairly new to homebrewing. We have produced six batches to date, and while we have enjoyed each brew we have produced, none have been truly exceptional. We are getting married in May and would like to do a special beer to celebrate our wedding. We are malt-extract brewers, typically using a pound or so of specialty grains. We like full-bodied ales that are fairly bitter. What should we do to produce the best batch possible? Do you have any suggestions on the following?

(1) We process our water through an Instapure™ filter and generally add one ounce gypsum, as our water is fairly soft (48 ppm). Is this sufficient, or should we do something else to prepare our water?

(2) Do you recommend the use of malto-dextrin powder and, if so, what quantity is appropriate for a five-gallon batch of beer?

(3) We use standard dried yeast, pitched directly into the cooled wort. Should we use a yeast starter? Should we use liquid yeast? If we use a dried yeast, should we use one packet or two?

(4) How critical is the temperature at which fermentation occurs? What is the optimum temperature for fermentation of an ale? Should we use the temperature specified on the

yeast package?

(5) After bottling, what temperature should the beer be stored at, and for how long?

Cheers, and thanks,  
Tom Dinackus  
Arlington, Virginia

Dear Tom,

Here are some thoughts on your questions:

(1) This is just fine. You could be doing otherwise, but this is just fine.

(2) If you like it malty, then use more malt. Malto-dextrin will add fullness more than sweetness. Four to eight ounces in a five-gallon batch would be needed to get a more than subtle effect.

(3) Watch your yeast. Some yeasts are better than others. Take a look at our Special 1989 Yeast Issue of *zymurgy* (Vol. 12, No. 4). If using dried yeast, use two packs and "start" it by rehydrating in 110-degree-F (43.5-degree-C), sanitized (preboiled, then cooled) water for 10 minutes. Yeast can really have an effect on the fullness and maltiness of your final beer.

(4) Temperature is very critical if excessive. I'm talking about in excess of 75 degrees F (24 degrees C) for most homebrewers. Best temperatures are about 60 to 65 degrees F (15.5 to 18.5 degrees C) for good healthy ale yeasts.

(5) Store at about 60 to 70 degrees F (15.5 to 21 degrees C) while the beer

conditions and clears. After it is clear and carbonated you can chill it down to whatever temperature you'd like to inhibit changes. In general, 50 degrees F (10 degrees C) or below is best.

Many happy anniversaries. You seem to be off to a great start!

Wedding bell brews,  
The Professor, Hb.D.

### Captain Condom to the Miscue

Dear Professor,

After spending many dollars over the years on fermentation locks (three-piece and S-type), rubber stoppers and lock cleaner brushes, I decided to take a lesson from wine-makers and simply lock the vessel with thick, sterile, six-inch-diameter plastic sheets and rubber bands.

Simply cut two six-inch-diameter pieces of plastic from a freezer bag, dip them in sanitizing solution, rinse and place on top of the carboy. Secure with rubber bands (use two for peace of mind—one at the neck and one at the lip). This works for both primary and secondary fermentation. CO<sub>2</sub> is released with no chance of air coming in contact with fermentation.

A major plus for lager brewers: There is no worry of water evaporating from the lock, thus no contamination.

How many times have you moved

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Ralph Stamm  
DRAFT Member  
Dayton, Ohio

P.S. Condoms may work as well but make sure they're latex.

Dear Ralph,

Thanks for the tip.

Ribbed or unribbed,  
The Professor, Hb.D.

### To Ferment Long or Not To Ferment

Dear Professor,

Some comments on two letters to the Professor, *zymurgy* Fall 1989 (Vol. 12, No. 3) regarding Walt Kutchinski's problem with the long ferment.

Your suggestion to Walt that he go ahead and bottle his still-fermenting beer and use less priming sugar is valid. I have had to do it several times and have gotten away with it. But your advice should have included a warning. The wild boogers that

caused the extended ferment will still be present and active after bottling, which can reduce the shelf life. I have found that in about four to six weeks after bottling, carbonation can become excessive unless aged under refrigeration.

Regarding Mike Albers and Tom McIntosh's problem with no ferment, ask them if they added Polyclar™ or a similar substance (used to prevent chill haze) before adding their yeast. I did this once and had exactly the same experience they described. If Polyclar™ must be used (doubtful) it should be added at bottling.

Sincerely yours,  
Paul Lewis  
Columbia, Tennessee

Dear Paul,

Thanks for the tips. Your experiences sound sound to me.

Soundly,  
The Professor, Hb.D.

### Double Brown Down Under

Dear Professor,

About 10 years ago, my wife and I experienced Dominion Brewery's Double Brown beer at a pub outside Auckland, New Zealand. I have never tasted such a magnificent brew. It had the perfect balance, for my pal-

ate, of sweetness, bitterness, dryness and body and was a beautiful dark gold color.

When I started brewing, 50 gallons ago, my goal was to duplicate the flavor of this perfect brew. I have a long way to go and I've concluded that going to the source is the most expedient way to duplicate Double Brown.

I have corresponded with Mrs. Evans of the Hibiscus Amateur Wine and Beermakers Guild. She suggested that you may have a recipe for Double Brown from your visit to Dominion Brewery. I'd appreciate any information you can share with me. I've listed a number of questions that will make duplication easier.

1) Am I correct in assuming that Double Brown is a pale ale or is it another style?

2) What amount and species of hops should I use for bittering, finishing and aroma?

3) As a dry malt/mini-mash brewer, what grains would you suggest I mash with light dry malt extract?

4) What original gravity would you suggest I target?

5) What Wyeast Lab's Brewer's Choice™ liquid yeast will produce the flavor of Double Brown, or would you suggest a specific dry yeast?

6) Should the brewing water be hard or soft?

I appreciate your assistance and look forward to your early reply.

Sincerely yours,  
James Willcockson  
Santa Monica, California

Dear James,

You're in luck because my colleague, Mr. Papazian, spent four weeks in New Zealand in 1983 and not only sampled Double Brown, but toured the breweries that make it.

Apparently Double Brown is a lager made with New Zealand hops because they don't import very much into New Zealand. Mr. Papazian tells me he remembers it being a light-brown lager, mild-tasting and with a slight diacetyl character. They once used, and still may, a continuous fermentation process with very special yeast; a variety that the rest of the world pretty much doesn't use. As a homebrewer it would be impossible to

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*use because it settles to the bottom as soon as agitation is stopped. I'd suggest formulating a recipe similar to a mild brown ale recipe but use a lager yeast that has a reputation for producing diacetyl (a butterscotch flavor). Don't hop too much; maybe five Homebrew Bittering Units for five gallons. Brewing water should be soft.*

*Refer to the 1989 Special Yeast Issue of zymurgy (Vol. 12, No. 4) for guidance on choice of yeast. Good Luck.*

*Good brewing,  
The Professor, Hb.D.*

## Stuck Amock a Brew

Dear Professor,

I have been brewing more or less worry-free for about six years. However, there are two perplexing complications that continue to haunt my efforts.

My generalized brewing procedures are as follows: Recipes are usually all-grain, with the occasional addition of demarera or brown sugar. Mashers are at 150 to 152 degrees F (65.5 to 66.5 degrees C) for 1 1/2 hours. For extract brews, adjuncts are steeped in 180-degree-F (82-degree-C) water for 45 minutes prior to adding malt. After a 1 1/2 hour boil, the wort is force-cooled to 70 to 75 degrees F (21 to 24 degrees C) to allow immediate pitching of yeast. The wort-chiller outlet hose is placed in the neck of the carboy so wort is aerated as it falls. I use Edme or Muntona ale yeast, pre-started in lukewarm water. Starting gravities range from 1.045 to 1.060, and terminal gravities from 1.005 to 1.012. Fermentations are usually conducted at ambient temperatures that fluctuate, usually between 60 and 70 degrees F (15.5 and 21 degrees C). I use a single-stage fermenter with a blowoff tube.

The first problem is an occasional "stuck" fermentation, in which case the fermentation will proceed normally for a week or so to an approximate gravity of 1.020, and then the yeasties take a vacation. Left to its own devices, the beer will sit with minimal drop in specific gravity. A dose of amylase enzyme powder will get things going again, but this has the undesirable side effect of remov-

ing dextrins. I can't correlate this occurrence with any particular ingredients or mashing and fermentation procedures. It seems to be a random event, if such can be said to exist in the world of brewha.

The second item concerns the duration of fermentation. Recipes given in *zymurgy* and elsewhere mention "typical" fermentation times for ales of two to four weeks. However, mine usually require a minimum of 10 weeks and often longer to reach terminal gravity. Again, I haven't observed any clear connection between the procedures followed and fermentation time. Are there any rules of thumb one can apply to figure this out?

I have a nagging suspicion that these two problems are somehow related. Any ideas you might have would be greatly appreciated. I am also interested in finding references for technical information on factors affecting fermentation rates. Thanks for your help!

Steve Rosensock  
Fredonia, Arizona

Dear Steve,

*Yes, about those random events. Using dried yeast is a somewhat random thing in itself. Dried yeasts, no matter what brands, may vary dramatically in viability and performance, depending on their storage and handling. One package may be fresh, the other may have been sitting around for over a year. That makes a big difference in performance. If the yeast is weak and not very viable to begin with it can poop out early. Also, yeast manufacturers recommend that you rehydrate your yeast in 110-degree-F (43-degree-C) water for 10 or 15 minutes.*

*Ten weeks! Man oh man, something is wrong here. First thing to try is to change your yeast. Next, look at your fermentation temperatures for ales. Are they too cold? Are you adding enough yeast? Is your water highly mineralized?*

*My guess is that your two problems are related: yeast that is not stored properly and is therefore not sufficiently viable to sustain healthy fermentation.*

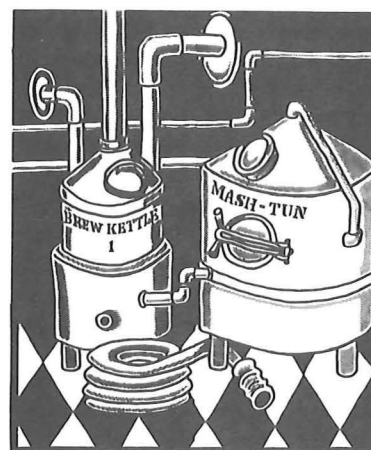
*Something is wrong, but it is fixable,  
The Professor, Hb.D.*



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## REVIEWS

### Counter-Pressure Bottling Device

From Foxx Distributing Co.

The Foxx Distributing Co. ad in the Fall 1989 *zymurgy* (Vol. 12, No. 5) announcing the availability of a new counter-pressure bottling device caused a stir of excitement among the Denver contingent of "keggers." The \$225 to \$335 cost of other bottlers on the market was beyond the reach of all but the most dedicated brewer. The Foxx price quote of less than \$25 for their unit generated a lot more interest, but also some healthy skepticism. Would the thing work? How would it compare with the high-priced unit?

Bud Schmitz, the Denver manager for Foxx, volunteered to provide a unit for some of us to play with as soon as one came in. When that day came, I showed the unit around and headed for the home of Tim Lenahan,

brewmaster for the new Breckenridge Brewpub. Tim had been bottling his beers and was our resident expert on counter-pressure bottling. We bottled some beer and had an opportunity to compare the Foxx bottler with one of the other units on the market. *It did work.* After this test, we met with Foxx and suggested a few minor refinements, which they have now incorporated into the device. I feel confident in saying that the bottler now being assembled works at least 80 to 90 percent as well as the more expensive units.

The major differences between this unit and the more expensive ones are in the area of fit, finish, bells and whistles. The Foxx model is assembled from standard components and fittings made from copper and brass. The other unit we compared it to was all stainless steel with specially manufactured components and extras like changeable tubes for different size bottles. The other unit looked sleeker and more professional. But from a functional standpoint there wasn't the difference the price would indicate.

Because another article in this issue explains how counter-pressure bottlers work, I won't deal with that in detail. Just a few hints on the Foxx unit. Gas lines go from the CO<sub>2</sub> canister to the bottler and the keg. The pressure in these two lines must be exactly equal. This is best accom-

plished by a "Y" connection coming from the regulator or a "T" in the gas line. This means that the gas to both sides is coming from the same regulated source and will automatically be at the same pressure. If the pressure is not equal, beer will run into the gas line or air into the beer line. We bottled with about 20 pounds pressure, which worked fine.

Even though bottling can be done by one person with this unit, two are much better. Each bottle must be capped as soon as it is filled. When bottling alone, one has to put the bottler down after filling each bottle, which is inconvenient and unsanitary. The beer should be as cold as possible. Be very careful to push straight down on the bottler so it doesn't bend the tube above the stopper or bleed valve. If you bottle in seven-ounce bottles, the tube is too long and will have to have about a half-inch cut off with a tubing cutter. This won't affect its use with bigger bottles because foaming is controlled by the bleeder valve and the beer is not exposed to oxygen with this system.

Now for the negatives. Neither the Foxx bottler nor the deluxe type will speed up the bottling process. In fact, even with two people it will take longer to bottle, just because there are more steps. With one person it

#### Correction:

*zymurgy* Winter 1989 (Vol. 12, No. 5): In Kihm Winship's review of *Classic Town Pubs*, Zealand Arms is incorrect. It is the Zealand Arms.

*continued on page 56*

# THE BEST FROM KITS

COLONEL JOHN

## Spring Fever Spruce Beer

For several years I promised myself that I would make a spruce beer using bottled spruce essence for flavor. Now seemed to be the right time, but I had never used spruce essence before. The manufacturer's label said one-half ounce was enough to flavor eight gallons of beer. I decided to use it all in 5 1/2 gallons of beer. I chose a Geordie kit for this brew because they have very little hop bitterness and I wanted room for the spruce aroma and flavor to show through.

Here is the recipe for Spring Fever.

### Ingredients for 5 1/2 gallons:

- 3.3 pounds Geordie Extra Strong Ale kit
  - 3 pounds amber dry malt extract
  - 3 teaspoons gypsum
  - 1/2 teaspoon Irish moss
  - 1 packet Edme ale yeast
  - 1/2 ounce spruce essence
  - 3/4 cup corn sugar for bottling finishing hop oil for aroma
  - Original Gravity: 1.045
  - Final Gravity: 1.011
- (Note: All water was dechlorinated and sanitized by boiling.)

### Brewer's Specifics:

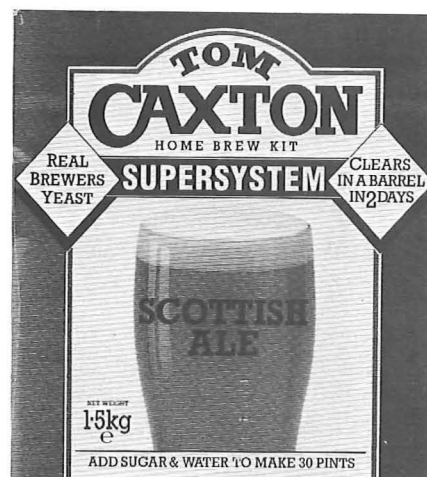
Add the malt extracts and gypsum to one gallon of hot water and

boil for 45 minutes. Add the Irish moss for the last 30 minutes of the boil. Add the spruce essence a minute or two before the end of boiling. Add the boiled wort to a seven-gallon carboy containing two gallons of cold water and top up to 5 1/2 gallons with more cold water. Add hydrated yeast when wort temperature is 70 to 80 degrees F (21 to 26.5 degrees C). Ferment for 10 days to two weeks and bottle using three-quarters cup corn sugar in 1 1/2 cups of hot, boiled water. Add one drop of aromatic finishing hop oil to each 12-ounce bottle just before fixing the cap in place. Spring Fever Spruce Beer needs a very short aging period before drinking. Did the spruce flavor and aroma show through? Yes, very delicately. I believe two bottles of spruce essence would not have been too much.

## Tom Caxton Scottish Ale

Some Scottish ales are generously sweet, while others are more like their English cousins. Tom Caxton Scottish Ale is one of the latter. When made according to good brewing instructions it not only has a wonderful malty and bitter character, but a hoppy flavor and aroma as well, all adding up to a delightful brew.

Here is the recipe for Scottish Ale:



### Ingredients for 4 1/2 gallons:

- 3.3 pounds Tom Caxton Scottish Ale kit
  - 2.2 pounds amber dry malt extract
  - 2 cups crystal malt (cracked)
  - 3 teaspoons gypsum
  - 1 teaspoon Irish moss
  - 1 package dry yeast provided with kit
  - 3/4 cup corn sugar for bottling finishing hop oil for aroma
  - Original Gravity: 1.045
  - Final Gravity: 1.014
- (Note: All water was dechlorinated and sanitized by boiling.)

*continued at bottom of page 56*

could easily take twice as long. You can't use these systems unless you have a set-up for kegging your beer, and most people who keg their beer do so to avoid bottling altogether.

But at less than 25 bucks, many "keggers" will want to keep a counter-pressure unit handy for bottling a six-pack to go, for sediment-free gifts, shipping to friends or entering draft beer in contests. With this device you can bottle as few or as many as you want at any time after the beer has been carbonated. And for the serious contest brewer, this device offers a feasible and reasonably priced way to improve the appearance of the beers.

—Jerry J. Fear

### ***The Essentials of Beer Style: A Catalog of Beer Styles for Brewers and Beer Enthusiasts***

By Fred Eckhardt, ABIS (American Brewing Information Service).



Fred Eckhardt has written two very good books about beer and, oddly, they've been bound together.

The first book (nominally Parts One & Two) gets title billing, and is a godsend to those who want to learn the classic beer styles, either for brewing or simple appreciation. Eckhardt provides the history and brewing method for each of the styles and follows these with a nuts and bolts profile, including original gravity, alcohol content, apparent extract, hop bitterness and color. With this as a

base, he profiles specific examples, sometimes including brews of the 19th century as well as beers of today.

In analyzing beer style, Eckhardt takes us farther than Michael Jackson but stops short of technical arcana that might be incomprehensible to homebrewers and beer enthusiasts—in sum, a hoppy medium for the advanced reader.

The second book (Part Three) is a good discussion of beer appreciation, with emphasis on evaluating beers and training your own palate. Again, Eckhardt goes farther than the usual sources but stops short of an overly technical seminar.

*Essentials* ends with two glossaries of taste terms, a thoughtful afterword on beer's role in our society, plus a complete index to the beers profiled. In terms of organization, the entire book is a bit of a mongrel. But I like mutts, and Parts One and Two are the most valuable, compact, understandable, in-depth survey of beer style available today.

—Kihm Winship

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### ***The Best from Kits, continued from page 55***

#### **Brewer's Specifics:**

Add the crushed crystal malt to one quart of hot water (above 150 degrees F or 65.5 degrees C) and steep for one-half hour. Strain out the grains and add the sweet liquid to enough hot water to total one gallon, then add the malt extracts and gypsum. Boil for 45 minutes. Add the Irish moss for the last 30 minutes of the boil.

Add the boiled wort to a seven-gallon carboy containing two gallons of cold water and top up to 4 1/2 gallons with more cold water. Add hydrated yeast when wort temperature is 70 to 80 degrees F (21 to 26.5 degrees C). Ferment for 10 days to two weeks and bottle using three-quarters cup corn sugar in 1 1/2 cups of hot, boiled water. Add one drop of aromatic finishing hop oil to each 12-ounce bottle just before fixing the cap in place.

Tom Caxton Scottish Ale will be ready to drink within two or three days.

### **Rehydrate or Perish**

Occasionally a homebrewer calls to say the package of dry yeast pitched in a wort is not fermenting. What can be wrong? I respond by asking for the temperature of the wort and whether the homebrewer rehydrated the yeast. Quite often they did not measure the temperature nor did they rehydrate.

It is a very simple task to make sure the wort temperature before pitching is about 70 to 80 degrees F (21 to 26.5 degrees C), but rehydration is a word many homebrewers are completely unaware of.

Some people advise pitching two or three packages of dry yeast straight into the wort on the off chance that if one package doesn't work, the other one will. This is the shotgun effect.

Dried packets of yeast can be quite good and the manufacturers of kits are betting their reputations on those packages of yeast. However, all doubt about a package of yeast can be resolved in a few minutes by rehydration. Here is how it is done.

Put 1 1/2 cups of dechlorinated, preboiled water at 90 to 100 degrees F (32 to 38 degrees C) in a sterile jar that can hold twice that amount. Open the yeast packet and pour it into the warm water. Stir with a sanitized spoon. Set the lid loosely in place, and within 10 minutes chunks of yeast should be seen rising to the top of the water and then dropping to the bottom. At this point put a spoonful of the boiling wort in the jar. In another 10 minutes there should be a thick head of foam over the surface. This indicates the yeast is quite vigorous and ready to pitch into the wort. If not, throw the yeast away and start another packet.

The cells in dried yeast are just that—very, very dry—actually they are shriveled like dried peas or raisins. Soaking them in water at 90 to 100 degrees F (32 to 38 degrees C) puts moisture back into each cell, swelling them to their original shape. When they are put into the wort, they will start the ferment much quicker than dried yeast and result in healthier wort and better-tasting beer.

Try it, it works.

# HOME BREW CLUBS

DAVID EDGAR

**Z**ymurgy always welcomes your newsletters, photos of homebrew club members (black and white, please) and articles on brewing, recent activities or experiments. Thank you for sending us your newsletters and please continue to do so because it helps us keep in touch with what's really happening in homebrewing throughout the United States, Canada, New Zealand and Australia. If you want to have news of your club included in this column you need to send in a paragraph or two (about 100 words) three months prior to the publishing date of each issue. To aid you in this endeavor we designed the "official" Club News Insert form. Please write or call the AHA office if you do not already have the forms. Our new policy is that we will not print news from clubs that do not send in the Club News Insert form—or a substitute. Furthermore, we do not list the contact information for clubs that do not submit anything. If your club does not have news to share, return the form anyway so we can provide our readers with the correct contact name and address. For a free complete listing of all the clubs in North America (more than 120), see the order form on page 10 for Information Available from the American Homebrewers Association.

Send information to David Edgar, Club News Editor, c/o zymurgy, PO Box 287, Boulder, CO 80306-0287; (303) 447-0816; FAX (303) 447-2825.

## ALABAMA

**Madison Sobriety Club** held an Oktoberfest competition Nov. 18. Of 11 entrants, Mike Metheny took first place, Ed Sieja second and Jeff Holt third. The club has no formal structure and meets about every six weeks. Contact: Steve Conklin, 311 Red Oak Road, Madison, AL 35758-1540; (205) 461-8698.

## ALASKA

**Great Northern Brewers:** The club sampled Russian beer at the November meeting. Currently it is gearing up for its biggest homebrew competition of the year at the annual Fur Rendezvous. Meetings are the third Tuesday in a different location each month, at a member's home or space donated by a local merchant. Call Randy, club president, for the location. Contact: Randy Oldenburg, 7601 E. 34th, Anchorage, AK 99504; (907) 338-1472.

## ARIZONA

**Brewmeisters Anonymous** held its annual Christmas party in December and judged Christmas ales. Members attended a preopening tasting at Crazy Ed's Black Mountain Brewery in Cave Creek. Spencer "Wolf" Smartt is assistant brewmaster. The German brewmaster, Erich Schalk, attended the Brewmeisters' November meeting where he tasted members' beers and offered constructive comments. Dues are \$15 per year, pro-rated. Meetings are the

second Sunday of the month at members' homes. Contact: Harold Gee, 242 W. Ivyglen, Mesa, AZ 85201; (602) 834-3974.

**Suds of the Pioneers:** The annual Mayfest celebration has been moved forward to mid-April, becoming Springfest. The site will most likely be the Electric Dave Brewery in South Bisbee. Judging from last fall's Oktoberfest, the Suds expect this one to be a real bash. Dues are \$5 per month. Meetings are held monthly at members' homes. Contact: Slim Tighe, PO Box 144, Bisbee, AZ 85603.

## CALIFORNIA

**Brewbirds of Hoppiness:** see listing under New Clubs.

**Crown of the Valley Brewing Society,** Pasadena toured the Grapevine Brewery in Lebec in September. October's meeting featured an Oktoberfest. November's featured good food and dark beers. December's holiday meeting included a feast of fine food, beer bread and tastings of Anchor's Special Ale from 1986, 1988 and 1989, Crown City's Father Christmas Wasail and a few beers from Seattle. This spring the Society plans a road trip to Santa Monica to visit Father's Office, a tavern specializing in microbrewed beers. Also, the Crown City Brewery is planning a "Homebrewers Open House" to allow all Southern California homebrewers to mingle, share ideas and boast to each other. Meetings are the third Sunday of the month at Crown City Brewery. Dues are \$12 a year. Contact Mike Lanzarotta, Crown City Brewery, 300 S. Raymond Ave., Pasadena, CA 91105; (818) 577-5548.

**The Draught Board** held its Christmas celebration at the home of Mark Maltagliati. Revelers were treated to a feast of gourmet food and drink. The January meeting featured an IPA judging in preparation for AHA's Hail to Ale club competition. Congratulations to Gerry Burke for winning Best of Show at the Renaissance Pleasure Fair. Also, congratulations to Harry Graham for garnering a second place award at the California State Club Competition. Dues are \$5 yearly, \$1 at each meeting. Meetings are the second Sunday of the month. Contact: Paul Marshall, 494 Shirley Ave., Hayward, CA 94541; (415) 278-0169.

**Maltose Falcons Home Brewing Society:** Congratulations to the club for winning the Anchor Brewing Co. 1989 California Home Brew Club of the Year honors! The October meeting featured an Oktoberfest, complete with a keg of Sierra Nevada. During the November meeting Vice President David Sherfey brewed a peach mead. Also there was a chili cook-off and Grand Hydrometer Dennis Fink led tastings of Export and Continental Dark styles. The December meeting featured a tasting of Christmas beers. The Troubleshooter's Corner, with 30-plus people sampling a member's beer, provides training for brewers and judges. The Tiered

Membership Plan, classifying members from member through master brewer, proceeds using Brewer's Resume forms. The Falcon's Nest computer bulletin board is accessible at no charge; (818) 349-5891. Meetings are the first Sunday of each month at The Shop. Contact: R. Bruce Prochal, c/o Home Wine and Beer Making Shop, 22836 Ventura Blvd. Unit 2, Woodland Hills, CA 91364; (818) 884-8586 or 504-9400.

**QUAFF (Quality Ale and Fermentation Fraternity):** see listing under New Clubs.

**SLO Brew Club:** Congratulations to Roger Preezl, who placed second in the Southern California Brewing Contest. Dues are \$12. Meetings are the third Wednesday of the month at the SLO Brewing Co. on Garden Street in San Luis Obispo. Contact: Howard Gootkin, 56 Los Verdes Drive, San Luis Obispo, CA 93401; (805) 541-0713.

**Worts of Wisdom** wound up a very successful year with a Christmas party in early December. Membership grew to nearly 30 active members, a number of whom have won awards in local homebrew competitions. Newly elected 1990 officers are Frank Bond (president), Stacie Denn (treasurer), David and Jenni Smith (secretaries), and Dean Grove (activities czar). Dues are \$12. Meetings are the last Wednesday of the month and the club welcomes new members and visiting members of other clubs. Call (408) 734-3516 or (408) 973-8970 for more information and meeting locations. Contact: David and Jenni Smith, 301 Greenlake Drive, Sunnyvale, CA 94089; (408) 734-3516.

## COLORADO

**Hop Barley and the Alers:** Congratulations to Phil Fleming and Bill Hasse, whose "Bad Bill's Hurricane Oktoberfest" took best of show at the club's inaugural Reggae and Dredhop Competition. Entries from the Ida-Quaffers, Kansas City Bier Meisters, and St. Louis Brews were also among the winners. At the October meeting 1989's officers were reelected for 1990: Phil Fleming, president; Jay Hicks, vice president; Steve Feldberg, secretary; and Jim Homer, treasurer.

At the November meeting Bob Foster of Coors Brewing Co. gave a talk on hop aging and storage. In December members hopped on the bus to Denver for a special trip to the Wynkoop Brewing Co., where Brewmaster Russell Schehrer led them on a tour and offered samples of everything from ESB to a chili beer and mead. The December meeting—a Christmas party—also was held at Wynkoop. The favorite homebrew of the evening was a spiced Christmas ale, "Anne's Choice," brewed by Phil Fleming.

Beer of the month for March will be stout, and in April, Bock. Meetings are the fourth Thursday of the month. Dues are \$15. Contact: Steve Feldberg, 708 Mohawk Drive, Apt. 10, Boulder, CO 80303; or call Phil Fleming at (303) 469-9847.

# NEW CLUB BONANZA!

## CALIFORNIA

**Brewbirds of Hoppiness:** The club has two members plus a women's auxiliary (the Ladybirds, for members wives), located in both Pacifica and San Jose. The Brewbirds follow the tradition of excellence exemplified by Admiral Byrd, Larry Bird and Charlie "Bird" Parker. The club philosophy is expressed on its homebrew label: "Remember, when your friends request your finest beer, give them the Bird." Founded in 1986, the club meets approximately once a month. Contact: Kelly Dunham, 1229 Lerida Way, Pacifica, CA 94044.

**QUAFF (Quality Ale and Fermentation Fraternity):** Located in San Diego County, QUAFF is just a year old. During 1989 the 25-member club held meetings at two local brewpubs and put on a well-attended Oktoberfest and Competition. Contact: Greg Schwaller, c/o Beer and Wine Crafts, 460 Fletcher Parkway, El Cajon, CA 92020; (619) 561-4028 or 270-7906.

## CONNECTICUT

**UConn Zymurgy Club** became an officially registered campus organization at the University of Connecticut in December.

"We are perhaps the only college club in the country which has an officer with the title of 'Brewmeister.'" A homebrew competition is planned for the spring. The 20-member club meets monthly. Contact: Robert F. Vieth (faculty adviser), Box U-139, University of Connecticut, Storrs, CT 06269; (203) 486-5880.

## FLORIDA

**North Florida Brewers League:** The club started last September and already has 30 members. Meetings are held the first Wednesday of the month at The Mill Bakery, Eatery and Brewery in Tallahassee. Dues are \$15. Contact: Ginger Smith-Wotring, 4520 Hickory Forest Circle, Tallahassee, FL 32303

## IDAHO

**SEIZURE (Southeast Idaho Zymurgical Union for Rectitude and Ebullience):** "We finally found someone who agreed to be president," reports Bruce Baumgart, one of a group of friends who had been thinking of starting a club for quite a while. Five people attended the first meeting, and the club is looking for more people interested in homebrewing. Meetings are every other month, location to be announced. Contact: Bruce Baumgart, 242 5th St., Idaho Falls, ID 83401.

## ILLINOIS

**ABNORMAL Brewers:** Nine people attended the first meeting of this Normal, Ill., club. The group ranges from new homebrewers to one fellow whose experience takes him back into the dark ages when homebrewing was illegal. Contact: Tony McCauley, 404 Tilden Place, Normal, IL 61761-1432; (309) 452-1084.

**Prairie Schooners** is a club for people in and around Springfield, Ill. The club held an India Pale Ale competition in January and plans to contact other area clubs to discuss possible interclub activities. Dues are \$12. Meetings are monthly, but not at a fixed location. Contact: Karl Menninger, RR 1, Box 296, Petersburg, IL 62675; (217) 632-2995.

## LOUISIANA

**Redstick Brewmasters:** The club meets periodically to discuss business, exchange information and have extract and all-grain brewing demonstrations. Most of the members are extract brewers and brew mostly in the winter because of the hot summer temperatures. They hold an informal annual brew-off in the spring, a tradition for the past 13 years, although the club is only two years old. There is a one-time \$15 fee, but no annual dues. Contact: Charlie Milan, PO Box 17661, Baton Rouge, LA 70893; (504) 343-2047.

## MASSACHUSETTS

**Barleyhoppers Brew Club** took a field trip to Boston breweries in November, visiting Commonwealth Brewing Co., an all-ale brewpub, and Samuel Adams/Boston Beer Co.'s new facility in the old Haffenreffer complex. Twenty-two members and guests came along and much great beer was sampled. Dues are \$10. Contact: Mark Larrow, 154 King St., Northampton, MA 01060; (413) 586-0150.

**Trubadours** was formed last summer to promote homebrewing in Western Massachusetts. Membership has grown quickly, due to complimentary six-month memberships being part of a starter package. Meetings have included tastings and discussions of basic brewing practices for the benefit of the club's many new brewers. Dues are \$5 per year or \$2 per meeting. Meetings are the last Thursday of the month. Contact: Kevin Felton, 77 Campechi St., Springfield, MA 01104; (413) 734-1006.

## NEW YORK

**Hudson Valley Homebrewers:** The Dutchess County-based club currently has 25 members. Meetings are the fourth Wednesday of the month. Dues are \$15. Contact: Bruce Franconi, RD #2, Box 35, Red Hook, NY 12571; (914) 758-0661.

## TENNESSEE

**Bluff City Brewers:** Spring finds the Bluff City Brewers preparing for the Squash Blossom Market's second annual barbecue tofu and homebrew contest (AHA-sanctioned), May 12 at the Overton Park Shell in Memphis. Deadline for entries is May 1. Out-of-town entrants may contact the club at the address below. The Brewers continue to meet twice each month. The first meeting is the first Sunday of the month at Mid-South Malts, 2537 Broad. This is the business meeting and brewing seminar. The second meeting is on the third Thursday of the month at the Indochina, at Cooper and Young, and is devoted to the tasting of homebrews, microbrews and imports. Dues are \$20. Contact: Chuck Skypeck, 761 Beasley, Memphis, TN 38111; (901) 327-7191.

## WISCONSIN

**King Gambrinus Court of Brewers (KGCB):** The club has no formal structure as of now (i.e. no officers or dues), but it might in the future. The court meets about every two months. Contact: Art Steinhoff, 7680 Big Pine Lane, Burlington, WI 53105; (414) 539-2736.

## CANADA

**Royal Canadian Malted Patrol:** In January the club toured Granville Island Brewery. Scheduled for February was a talk by Malcolm Faviell, head chemist at BC Sugar and consultant to several local brewpubs and microbreweries, and an in-club bitter competition. Coming in March is a brewpub and pub tour of Seattle, with driver and bus provided. April's meeting will feature a Belgian beer tasting and an in-club stout competition. Dues are \$10. Meetings are monthly at members' homes. Contact: Betty Ann Sather, c/o Pacific Coast Vintners and Brewers, 3419 Kingsway, Vancouver, British Columbia V5R 5L3; (604) 433-8918.

**Toronto Regional Association of Specialty Homebrewers (TRASH)** already is two years old. TRASH members did very well at the fifth annual Canadian Homebrew Competition in Toronto Nov. 25. Vice President Michael "Fezz" Nazarec picked up three second-place awards (in stout, extra strength and specialty). Craig Nichols narrowly beat "Fezz" for top honors in the stout category, placed second in wheat beer and third in British ale. For TRASH President Dave Kimber, 1988 Canadian Homebrewer of the Year, a repeat of last year's stellar performance proved elusive; he placed third in the wheat beers.

They're pooling their expertise and plan to be a formidable force in 1990 competitions. The club has no dues. Meetings are monthly at various homes and pubs. Contact: Peter Goodwin, 66 Joseph St., Brampton, Ontario L6X 1H8; (416) 454-3865.



**The Barleyhoppers Brew Club at Commonwealth Brewery, Boston, Mass.**

## CONNECTICUT

**Beer Brewers of Central Connecticut (BBCC):** The "Octoberblast" was well-attended, with members of various clubs from Connecticut, Massachusetts and New York (not to mention hundreds of outlaw yellow jackets). A visit to Phil Markowski's New England Brewing Co. in Norwalk in early December ended up as an impromptu dance-a-thon at a local reggae club. Members were gearing up for Pat Baker's New England Regional competition in early March. On tap for early May is the second annual Southern New England Regional sponsored by the BBCC, open to clubs and brewers from New England and New York.

Plans include continuing the monthly single beer style in-depth studying-judging sessions at most meetings; a St. Patrick's Day feast; and a tentative late Spring three-day brewpub crawl of Vermont and Montreal. Anyone interested in submitting work (cartoons, stories, nude drawings, etc.) to the second annual summer No Swimsuit Edition of *Beer Dreams* is invited to contact Ron Page. The theme of the 24-page magazine will revolve around Herb Alpert's classic record, "Whipped Cream & Other Delights." Dues are \$10. Meetings are the first Friday of each month at various locations. Contact: Ron Page, 21 Walnut St., Middletown, CT 06457; (203) 347-6777.

**UConn Zymurgy Club:** see listing under *New Clubs*.

## DISTRICT OF COLUMBIA

**Brewers United for Real Potables (BURP):** September found BURPers at "Mashout," the annual camp-out in Catocin, Md., open to all homebrewers from the mid-Atlantic region. The "Weird Beer" contest highlighted the October meeting. Beers made from barley malt and "something else" were judged. Bob Wright took first prize with his Yellow Dog Maple Ginger Ale. Erik Henchal's fest beer was selected as BURP's Best of Fest entry.

The Winter Solstice commercial tasting was held in November, featuring gourmet beers (such as Thomas Hardy's Ale) from Phoenix Distributors. December's annual banquet was a potluck featuring fine homebrew and a great talk by Gary Heurich of the Olde Heurich Brewing Co. Meetings are monthly at various times and locations in the Washington, D.C., area. Dues are \$12 per individual and \$18 for families. Contact: Erik Henchal, 19924 Apple Ridge Place, Gaithersburg, MD 20879; (301) 869-0894.

## FLORIDA

**North Florida Brewers League:** see listing under *New Clubs*.

## IDAHO

**SEIZURE (Southeast Idaho Zymurgical Union for Rectitude and Ebullience):** see listing under *New Clubs*.

## ILLINOIS

**ABNORMAL Brewers:** see listing under *New Clubs*.

**Headhunters Brewing Club** is meeting once a month at the Lil' Olde Winemaking Shoppe. The club has no officers and no dues. Contact: Greg Lawrence, 4 S. 245 Wiltshire Lane, Sugar Grove, IL 60554; (708) 557-2523.

**Northern Illinois Better Brewers Association (NIBBA)** will have its Bock is Best entry competition in mid-April. "To all the homebrewers who contacted us and were never called back, we are sorry. Please call again." Contact: Jon Huettel, 2316 Oak St., Northbrook, IL 60062-5220; (708) 498-6154.

**Northwest Amateur Wine and Beer-makers:** The October meeting, featuring a beer tasting, was in Mt. Prospect at Roy and Nancy

Horton's. The club also got together at the home of Les and Betty Kijak, where members picked over 800 pounds of apples and made 40 gallons of cider.

Jim and Nancy Thomas hosted the Thanksgiving meeting, with special pumpkin desserts. Barb and Dean Alseth held the Christmas meeting, complete with a Christmas buffet and carols to the accompaniment of trombone and piano. Meetings are the third Tuesday of the month at different locations. Dues are \$1 monthly. Contact: Roy J. Horton, 1419 Redwood Drive, Mt. Prospect, IL 60056; (708) 439-4525.

**Prairie Schooners:** see listing under *New Clubs*.

## KANSAS

**Kansas City Bier Meisters:** Seventy-five people enjoyed perfect weather, outstanding food and several kegs of great homebrew at the Bier Meisters' Ragin' Cajun Oktoberfest. The wonderful gumbo and jambalaya made by Jackie Rager and Jerry Black would have rivaled that created by any Crescent City chef. The "Disorder of the Month" program continues to be an important, informative part of meetings. Bob Daniels led a discussion on phenols at the November meeting, complete with examples. On the lighter side, June Jamison led a rousing game of beer trivia.

Congratulations to winners at the Dixie Cup: Kenny Butler, first place in strong ale, and Alberta Rager, third places in fruit beer and brown ale. Jackie Rager won first place in continental dark at the HOPS Mid-Atlantic Regional contest and third place in dark beer at the Hop Barley and the Alers competition. Also at the Hop Barley contest, Kirsten Pedersen won second place in specialty beer and Kenny Butler took third place in the strong beers. The annual Christmas party, complete with an hors d'oeuvre buffet and homebrew on tap, brought homebrewers from as far away as Iowa. Dues are \$15.

Meetings are the second Friday of the month at the Soroptomist Community Center in Mission. Contact: Alberta Rager, 5531 Reeds Road, Mission, KS 66202; (913) 236-5953.

## LOUISIANA

**Redstick Brewmasters:** see listing under *New Clubs*.

## MASSACHUSETTS

**Barleyhoppers Brew Club:** see listing under *New Clubs*.

**Trubadours:** see listing under *New Clubs*.

**The Wort Processors** selected new officers at its Oktoberfest, including president—Mike Fertsch; vice president—Jeff Pzena; secretary—Tom Ayres; treasurer—Arnie Peterson; and Board Members-at-large—Steve Stroud and Jay Hersh. Jay hosted a "Dr. Brew" session at the Boston Beer Co. in Jamaica Plain. Club members and guests sampled several "doctored" brews and learned to better detect off-flavors and aromas. The Worts plan to introduce troubleshooting sessions before their regularly scheduled meetings. AHA/HWBTA-recognized judges in the club will lead the sessions, scoring beers for one-half hour before the start of meetings. Annual dues are \$10. Meetings are the first Friday of the month at members' homes. Contact: Tom Ayres, 65 Langdon St., Apt. 6, Cambridge, MA 02138; (617) 354-4326.

## MICHIGAN

**Ann Arbor Brewers Guild:** The December meeting was filled with traditional good cheer and the largest attendance ever. Guests of honor included Kalamazoo Brewing Co. President and Brewmaster Larry Bell, who brought a couple of experimental brews not yet in production, and Tom Burns of the not-yet-open Detroit Brewery. An attorney, Tom told of his litigation to overturn Michigan's three-tiered beer distribution system that prevents the establishment

## CORRECTION!

In the Winter 1989 issue we listed the runners-up of the 1989 Homebrew Club High Point Award. Our original reason for doing this was that two clubs, Beer Brewers of Central Connecticut (BBCC) and Foam Rangers, were claiming to have finished second and we decided we had better set the record straight. It turned out, according to our records, that the San Andreas Malts had finished second, Foam Rangers third and BBCC fourth.

After *zymurgy* (Winter 1989, Vol. 12, No. 5) came out I received a call from Ron Page of BBCC who listed the awards that BBCC members had won and showed me that the total number of points was 10 (not 7), giving the club an indisputable second-place standing. I checked our winners list and confirmed that the medal winners Ron listed were indeed accurate. Then I went back to our 1989 Competition Registrar, Paul Echternacht, and asked him to once again print out the list of all medals won by club members—only to find the same totals that we reported last issue. I scratched my head, wished I had a homebrew (but didn't because I was at work), and tried to figure out what happened. I gave Paul the list of BBCC winners and he discovered that one of the members of the club neglected to write the club name on his entry forms, so that three points won by BBCC were never credited in the club totals.

The AHA cannot be held responsible if people do not fill out the form correctly. We updated the entry form for 1990 in an effort to minimize the potential for any confusion or error. If you want to ensure that your club gets credit for your entry, you *must* write the club name on your entry form.

For the record, here are the top four clubs in point total at the 1989 Competition (the order of the remaining finishers remains unchanged):

1st	Sonoma Beerocrats (14 points)
2nd	Beer Brewers of Central Connecticut (10 points)
3rd	San Andreas Malts (9 points)
4th	Foam Rangers (8 points)

At this year's competition we will announce the top 10 finishers for the Homebrew Club High Point Award (instead of revealing only the winner of the award, as has been the practice in the past) and that will stand as the official record.

of brewpubs. Beers that night included a couple of excellent barley wines and other high-gravity brews with names such as Hoppy New Beer, Zsa-Zsa-Bakker's Jail Ale and XXXmas Ale. Meetings are once a month at various member's houses, alternating Mondays and Thursdays. Dues are \$5. Contact: Rolf Wucherer, 1404 White, Ann Arbor, MI 48104; (313) 663-8196.

## MINNESOTA

**Bosso Brewing Co.** would like to thank Bill Burdick for the tour of Sherlock's Home brewpub in Minnetonka. Members had the opportunity to taste the brewery's British-style real ales.

The December meeting featured a discussion on wort chillers. Coming topics include kegging systems and all-grain brewing. Meetings are at the Bosso Subterranean Blues Bar located in Martin Henschel's basement. Contact: Darlene Joyer, 1397 James Ave., St. Paul, MN 55105; (612) 699-6864.

**Northern Ale Stars Homebrewers Guild** cosponsored an international beer tasting at the old August Fitger Brewery in Duluth. The brewery has been converted into a hotel/restaurant/shopping complex. The August Schell Brewing Co. of New Ulm has been contracted to produce a private label brand for the establishment, called Fitger's Rex Beer. Doug Hinderks, Don Hoag and John Judd brewed two batches of homebrew at Doug's house for the cameras of "Venture North," a PBS television show produced in Duluth and aired in many parts of the Midwest. Greg Gecas, who owns Heston's Lodge on Minnesota's famous Gunpoint Trail, will host a cross-country ski and homebrew weekend April 6-8. Meetings are approximately every six weeks at members' homes. Annual dues are \$10. Contact: Don Hoag, 5426 Beartrap Road, Saginaw, MN 55779; (218) 729-6302.

## NEVADA

**Washoe Zephyr Zymurgists** held a vertical tasting of six vintages of Sierra Nevada Celebration Ale in January, along with its annual chili cook-off. The Zymurgists look forward to a Reno pub crawl in April. Also planned is a comparative tasting and analysis of Yeast lager strains in a standard Pilsener. Dues are \$10. Meetings are the second Friday of the month (usually), at various locations. Contact: Eric McClary, 6185 Franktown Rd., Carson City, NV 89704; (702) 883-7187.

## NEW JERSEY

**Mid-Atlantic Sudsers and Hoppers (MASH):** New officers for 1990 are Ed Busch, president; Doug Wagley, vice president; and Eric Reidinger, secretary-librarian. The Christmas dinner party was at Iggy McGoo's in Plainfield, a restaurant with more than 400 beers—the best selection in the state.

The bill to fully legalize homebrewing passed state law committee by unanimous vote and should be voted into law this year. The club's 1990 meetings will be keyed to the AHA club competitions as well as the national competition. Based on participation in brewing and entries into competitions, a MASH homebrewer of the year will be selected in December. Dues are \$12 per year. Contact: Ed Busch, PO Box 105, Flagtown, NJ 08821; (201) 359-3235.

## NEW MEXICO

**Dukes of Ale:** The club's fervor in its first year as an AHA-registered club has carried into 1990. The Dukes already have most of the year mapped out. Plans include a 30-gallon club brew and a presentation on bacteria in brewing by a guest speaker. The Dukes will continue to meet the first Friday of the month. Meetings consist of business, brewing technology, sampling of beer styles from around the world and an ample

supply of homebrew. Annual membership fee is \$12. Contact: Dan Baumann, 3600 Coors NW No. 15, Albuquerque, NM 87120; (505) 836-0354.

## NEW YORK

**Broome County Fermenters Association:** Congratulations to Jack Ellis, whose Riesling took best of show at the October wine contest. Winners in November's light beer competition were Bob Lanzendeon and Wayne Myers. At the December meeting Wayne Myers, Roger Haggett and Frank Haining were recognized for their brewing prowess. Newly elected officers are: Sam Bigelow, president; Jim Mroczka, vice president; Brice Feal, secretary; and Tom Elliott, treasurer. Meetings are the second Tuesday of the month at the Russian Club in Endicott. Dues are \$10. Contact: Brice Feal, 2601 Grandview Place, Endicott, NY 13760; (607) 757-0634.

**Hudson Valley Homebrewers:** see listing under *New Clubs*.

**Long Island Brewers Association (LIBATION)** planned a visit to Manhattan Brewery during the winter. The club has no officers and no dues. Meetings are the second Tuesday of the month at Mr. Fackley's Deli-Pub on Main St. in Patchogue. Contact: Arnie Moodenbaugh, 247 N. Titmus Drive, Mastic, NY 11950; (516) 281-0152.

**New York City Homebrewers Guild:** In September Michael Jackson and Anchor Brewing Co.'s Mark Carpenter and Jim Fristoe visited the Guild. Congratulations to Jeff Silman, who won best of show with his barley wine at the Guild's AHA-sanctioned "Dark, Strong and Spicy" holiday homebrew competition limited to wassails, barley wines and porters. Phil Green won the wassail category and Tom Bedell the porter.

Trips were planned to New Haven Brewing Co., New England Brewing Co. in Norwalk, Conn., and Manhattan Brewing Co. An Irish Stout competition is scheduled for March, as well as mashing demonstrations and guest lectures. Annual dues of \$20 include the club magazine. Meetings are at Brewsky's, 41 E. Seventh St., every second Tuesday. Contact: Garrett Oliver, 110-20 197th St., Hollis, NY 11412.

**Outlaws of Homebrew:** "Outlaws Oktoberfest" was a smash hit with 66 gallons of commercial beer and homebrew and plenty of wursts and sauerkraut. The club would like to thank Steve Hindy of Brooklyn Brewery and Dave Proterra of Anchor for donating door prizes. Outlaw Jeff Silman was the best-of-show winner at the NYC Homebrewers Guild "Dark, Strong and Spicy" winter warmer contest with his barley wine. And Outlaw Mike Pencak won second in wassails and third in barley wines. Way to go!

The Outlaws will have a St. Patrick's Day party March 17 and an AHA-sanctioned Doppelbock and Northern Brown Ales competition April 15. The club extends a formal invitation to MASH of New Jersey to compete. Contact: John Quinn and Eileen Reilly, 1377 Richmond Road, Staten Island, NY 10304; (718) 979-9604.

## OHIO

**Dayton Regional Amateur Fermentation Technologists (DRAFT)** drafted a new constitution designed to help the club accomplish a lot more—a lot more efficiently—by defining duties and sharing the load. DRAFT experienced rapid growth during 1989. After starting four years ago with six members the club now has 60 members, 20 to 25 of whom regularly attend meetings. Recently the club started a liaison program with other clubs. Dues are \$15. Meetings are the second Friday at the Dayton Canoe Club, 1020 Riverside Drive, Dayton. Contact: Ross Goeres, 6232 Pheasant Hill, Dayton, OH 45424; (513) 236-0258.

## OREGON

**Cascade Brewers Society:** In October the club tasted Swiss, Dutch, Belgian and German beers (some very unusual) that Scott Weech brought back from a recent trip to Europe. Also, the Brewers were entertained by his videotape of Oktoberfest in Munich. Annual dues are \$10 and meetings are the second Monday of each month. Contact: Scott Weech, 26654 Pickens, Eugene, OR 97402; (503) 935-7074.

## PENNSYLVANIA

**Three Rivers Alliance of Serious Homebrewers (TRASH):** Congratulations to Joe Stakel and Greg Walz for winning ribbons in the fifth Mid-Atlantic Regional homebrew competition. The October meeting at Chiodo's Tavern featured a tasting of 10 imported specialty beers. November's meeting featured a demonstration of kegging techniques and procedures. The 12 hardy souls who braved the winter's first blizzard to attend the December meeting at Eleanor Hellam's were treated to a tasting of a dozen microbrewed Christmas beers provided by Claudia Slevin and Greg Walz. Dues are \$10 annually plus \$5 per meeting cover charge. Meetings are the first Sunday of the month, when possible; places vary. Contact: Greg Walz, 3327 Allendorf St., Pittsburgh, PA 15204; (412) 331-5645.

## RHODE ISLAND

**Rhode Island Association of Brewers:** The December meeting, hosted by Jerry White, featured a specialty beer contest. Ken Averill was the winner with his Honey Ginger Cinnamon Orange Peel Ale. The club reports that brewpub legislation for the state has been submitted by Representative Richard Johnson of Warwick. The club has no formal structure (i.e., no officers or dues) and meets the second Saturday of the month. Recent activities included a demonstration of all-grain mashing and a tour of microbreweries and brewpubs in the Boston area. Contact: Jerry White, 5 Spirketing St., Jamestown, RI 02835; (401) 423-0463 for future meeting dates and sites.

## TENNESSEE

**Bluff City Brewers:** see listing under *New Clubs*.

**East Tennessee Brewers Guild** serves the serious and low energy brewers of the greater Knoxville area. Highlights of their Beer Year 1990 included their annual Oktoberfest, the November dark beer competition and a meeting at the Tennessee Valley Winery to sample other fermentations. Upcoming events include the St. Patrick's Day stout competition and a continuing series of reviews of the world's brewpubs in the newsletter. Dues are \$7. Meetings are the first Tuesday following the first Monday of each month at various members' homes. Contact: Steve Railsback, RRI, Box 60-A, Lenoir City, TN 37771; (615) 986-0526 (eves) or (615) 574-5607 (days).

## TEXAS

**Bock 'n' Ale-ians:** Four members traveled to Houston for the 1989 Dixie Cup Competition and six ribbons were carried home. The club has no dues and no officers. Meetings are the first Sunday of each month at Hill and Dales Ice House. Contact: Albert Hymer, 1932 W. Huisache, San Antonio, TX 78201; (512) 734-8723.

**North Texas Homebrewers Association:** Spring finds the club busily preparing for the fifth annual Homebrewers Alliance Bluebonnet Conference and Competition in Dallas (March 28 to 31), and hoping to hold on to the Bluebonnet Cup for a fourth straight year. NTHA took second place at the sixth annual Dixie Cup competition for overall points and quality

points. The very merry fifth annual Christmas party named the club's "Brewer Royale '89," Paul Seaward, closely followed by Mike Leonard and Greg Wilk. Another six club competitions will determine this year's choice. Monthly meetings are usually based around a chosen beer style, with homebrew, ingredients and discussions appropriate to that style. The monthly newsletter, "Living the Brews," keeps 50 or more members informed. Regular club brew-ins occur at Wine and Beer Magic. Annual dues are \$12. Meetings are the second Tuesday of each month at DeFalco's Wine and House Beer in Dallas. Contact: Paul Seaward, 6008 Lovers Lane, Apt. 212, Dallas, TX 75206; (214) 369-1703.

## UTAH

**Zion Zymurgists and Homebrewing Operatives (ZZ HOPS):** Club activities are at full tilt again. Because of the success of the fusion ale experiment, a 25-gallon collaborative batch of strong ale was brewed in December. The batch was split five ways, with five different ale yeast strains used. Dues are \$8. Meetings are about every six weeks at members' homes. Contact: John Smolley, 2859 Glen Oaks Drive, Salt Lake City, UT 84109; (801) 486-4684.

## VIRGINIA

**James River Homebrewers** held its Oktoberfest celebration, with sausages, wursts, German side dishes and desserts, and a fine Oktoberfest beer. In mid-October some of the members journeyed to Durham, N.C. to join members of T.R.U.B. at its Oktoberfest celebration at the Weeping Radish Restaurant and Brewery. In December several members went to Virginia Beach to join in the Hampton Roads Brewing and Tasting Society's Decemberfest. Also in December, the monthly meeting featured a tasting of both homebrewed and commercially available holiday brews. Dues are \$12. Meetings are the second Thursday of the month at members' homes. Contact: Gary Tolley, 1401 Stone River Road, Richmond, VA 23235; (804) 276-0306.

## WASHINGTON

**Brews Brothers** held elections in December. Ken Densmore won the coveted office of president based on his enthusiasm and canned kiwi mead. Tom King was elected scribe and Bob Dale, treasurer. During the winter the club visited the new Pacific Northwest Brewing Co. in Seattle and received a gracious tour from Owner Richard Wrigley. The Brothers were pleased to discuss brewing techniques and share general beer-related topics. Also planned for the winter was an IPA contest and an open discussion of the topic "Is There Sex After Bacterially Infected Beer?" Dues are \$12. Meetings are the second Saturday of the month at Bob Dale's home. Contact Tom King, 6538 Greenwood Ave. N., Seattle, WA 98103; (206) 789-7129.

## WISCONSIN

**Brewtown Brewmasters:** The November meeting featured a judge certification test conducted by Dave Norton from the Kenosha Bidal Society. The December meeting was a Christmas party, featuring a pony keg of Lakefront Brewery's Cherry Ale. Many seasonal homebrews were tasted, and the wower of the month went to Mike Champion for his superb Blueberry Ale. Congratulations to Rande Reed, who has been hired by the Thomas Kemper Brewery in Washington State. Club members are gearing up for the Bock is Best Competition in May. There are no dues and no officers. Meetings are monthly at The Basement Brewmaster in Brookfield. Contact: Mark May, The Basement Brewmaster, 4280 N. 160th, Brookfield, WI 53005; (414) 781-2739.

**King Gambrinus Court of Brewers (KGCB):** see listing under *New Clubs*.

**Madison Homebrewers and Tasters Guild:** Congratulations to Art Lies, whose "Special" won best of show at the November Classic. Other winners were Russ Whitenack's "Holiday," Robert Drouth's "Weizen Bock," and Art Lies' "Doppelbock," in the "This" category. Winning in the "That" category were Kevin Crawford's "Frankenbrau," Housaboutzum Brewery's "Big Stout," and "Barley Wine" brewed by Bob Klaehn, Jim Thoyre and Dwight Bebee.

The Guild is preparing for "The Big and Huge" competition to be held in Madison April 28. Ales and lagers will be divided into "Big" (o.g. 1.052-1.062) and "Huge," (o.g. > 1.062). Entry fee is \$6 per brew. Send in your biggest and your hugest! Club dues are \$10. Meetings are every Wednesday, 8 p.m., at Gino's Cellar Bar. Contact: Mark Kessenich, PO Box 1365, Madison, WI 53701-1365; (608) 238-1140.

## CANADA

**Edmonton Homebrewers Guild:** Congratulations to Geoff Kuziwi for blowing them away at the Canadian Amateur Brewers Association nationals with his first place "Flatulator Doppelbock" and third place porter. The club currently has four certified Beer Judge Certification Program judges. It will receive entries for its Open Competition until May 18. The fee is \$3. Contact the club president for entry forms. A committee system was introduced and received fantastic participation. Each committee is responsible for two meetings' topics and demonstrations apart from their specific committee task, e.g., judge education and club competitions. Meetings will be the first Monday of every month through June and then on the second Monday through July and September at the Strathcona Brewery, 4914A 89th St. "Visitors are welcome. See the mall, then stop in for 'fellow-sip' with local homebrewers." For inquiries, contact Edmonton Homebrewers Guild, c/o Frank Jetter (president), No. 1312 9740-106 St., Edmonton, Alberta T5K 2P8, Canada; (403) 424-5762.

**Royal Canadian Malted Patrol:** see listing under *New Clubs*.

**Toronto Regional Association of Specialty Homebrewers (TRASH):** see listing under *New Clubs*.

## AUSTRALIA

**Northside Wine and Beer Makers Circle:** Having to give up its meeting venue because of an unaffordable rent increase, the group of keen brewers has continued to meet at members' homes. The members bulk-buy grains and hops and one member has a large grain cracker which most of them use. There are no dues. Meetings are the first Tuesday of the month. Contact: Brian Starley, 1 Young Crescent, Frenchs Forest, N.S.W. 2086, Australia; (02) 451-3999.

## NEW ZEALAND

**Auckland Guild of Winemakers and Brewers:** Activities for 1990 will include a competition for a Newbegin Micro Brewery Kit Beer. It will be judged by the brewery's brewmaster, Steve Fielding. Also planned is a visit to the Waitakere Brewing Co., a microbrewery in Henderson. The New Zealand Hop Board reported that growers are experimenting with Saaz and Tettnanger varieties and now have commercial New Zealand Hallertauer in pellet form. Meetings are the fourth Wednesday of each month at 869 New Nth Road, Mt. Albert. Membership dues are \$14 for single, \$20 for double or family. Contact: Hec Denniston, 426 Sandringham Road, Auckland 3, New Zealand; 868-428.



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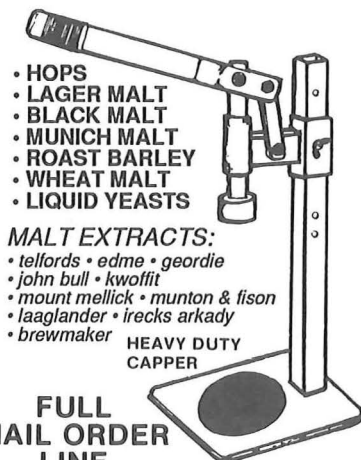
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(Thanks to Ken Slusher for passing on this valuable tip from *The Written Wort*, Vol. 2, Number 5.)

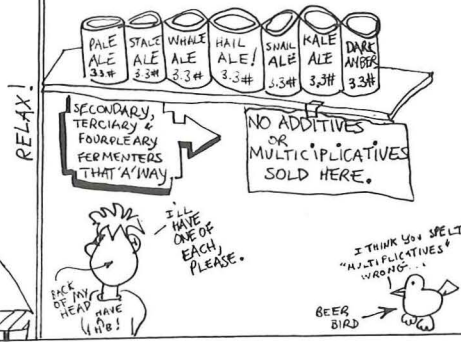
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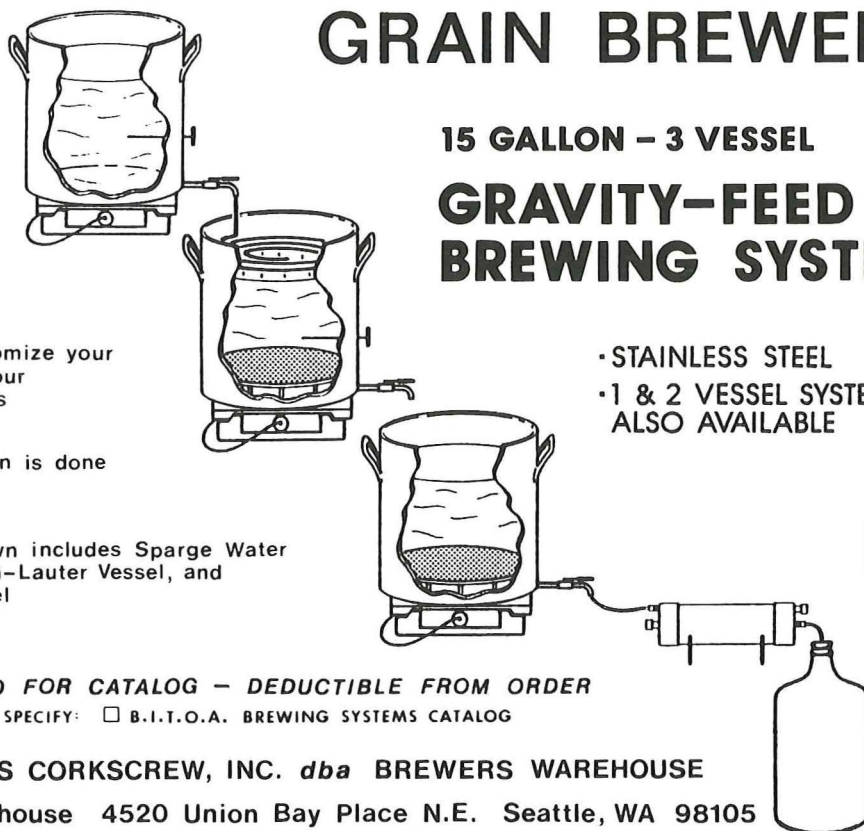
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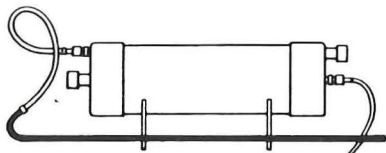
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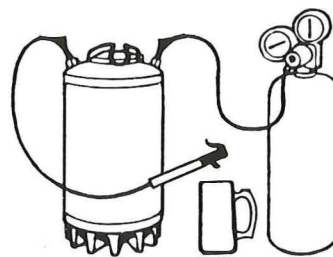
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