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ZYMURGY

FOR THE HOMEBREWER AND BEER LOVER

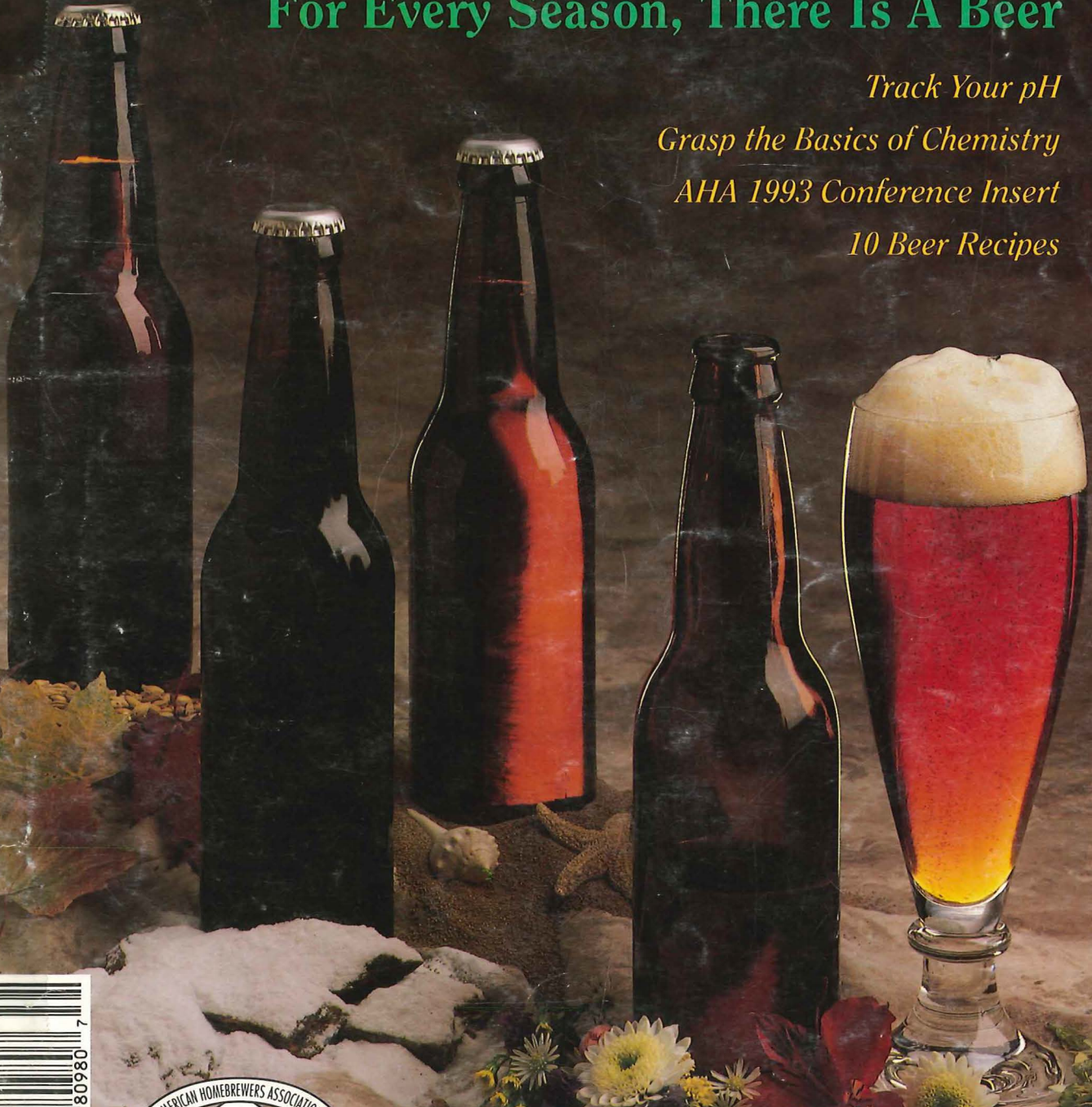
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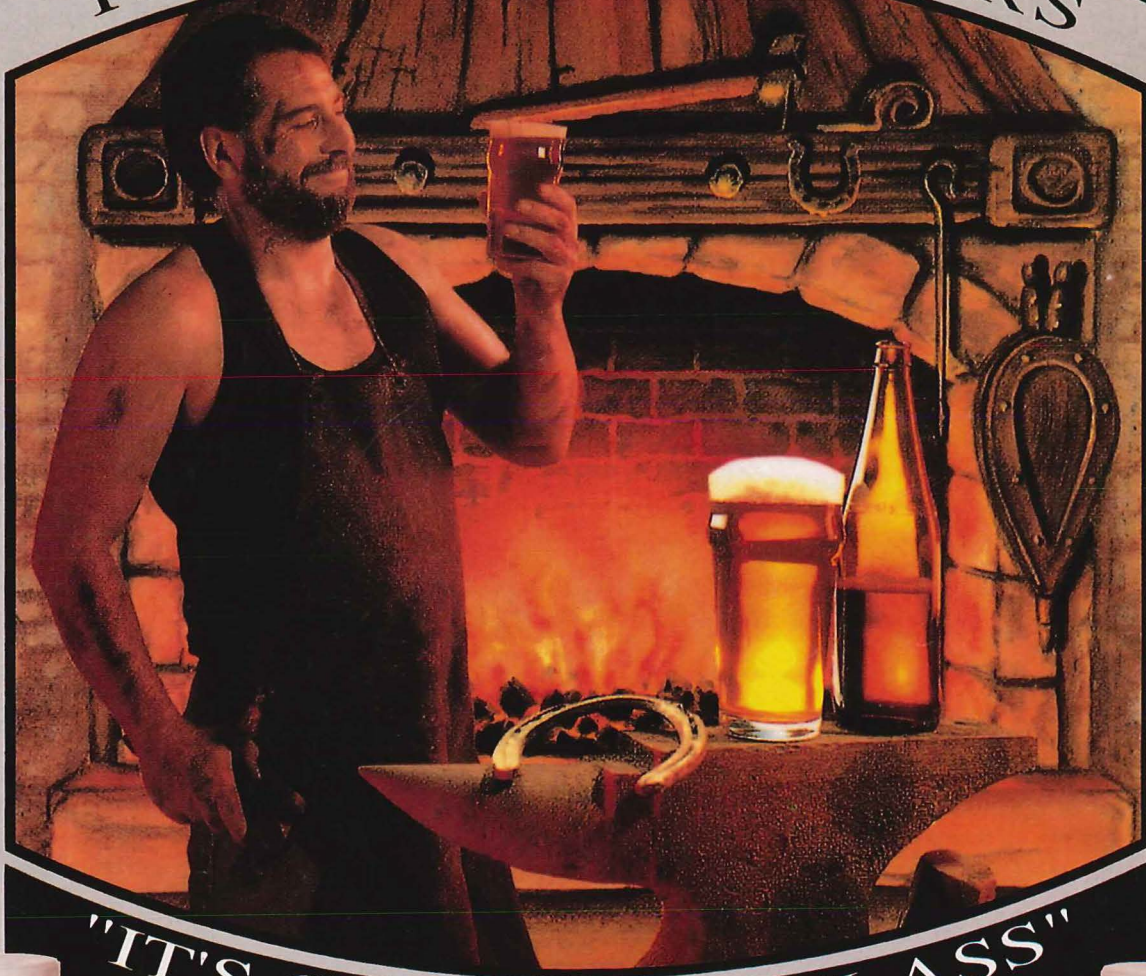
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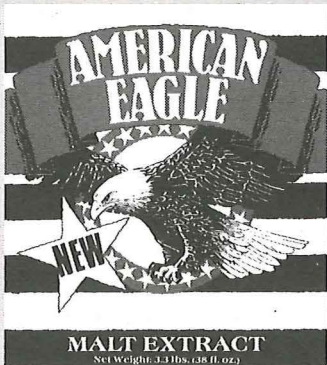


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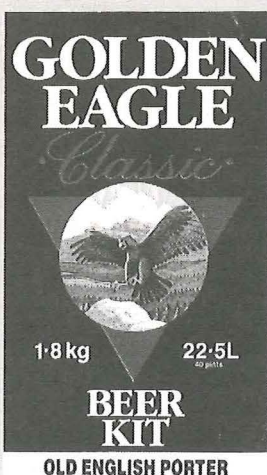
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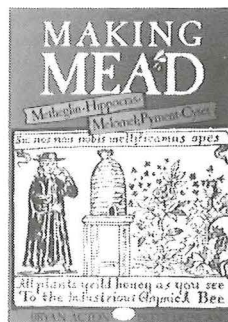
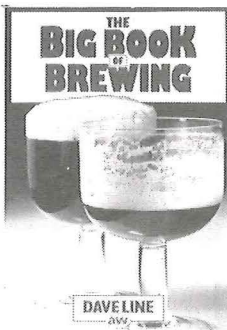


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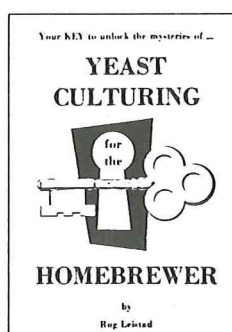
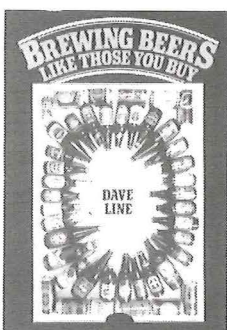
The classic work on mashing. Dave Line makes mashing easy and understandable. If you are considering becoming a mash-er you must read *The Big Book of Brewing* first.



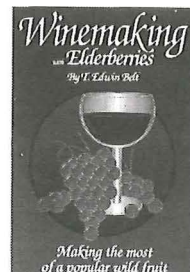
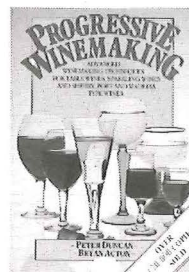
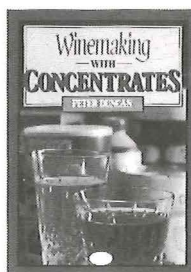
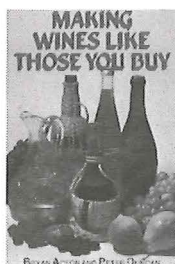
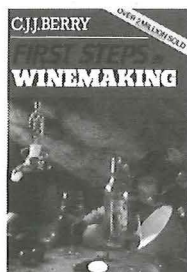
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Brewing Beers Like Those You Buy, by Dave Line

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



First Steps in Winemaking
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Everything a beginning winemaker needs to know to get started. Includes over 130 detailed recipes.

Making Wines Like Those You Buy, Acton & Duncan
This book shows how to make white, red and rose' table wines, Sauternes, Hocks, Moselles, Madeiras and champagne, plus a wide variety of liqueurs and apertifs.

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

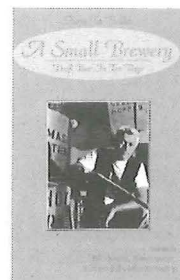
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How To Build A Small Brewery, Draft Beer In Ten Days, by Bill Owens

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





SPECIAL FEATURES

VOL. 16 NO. 1

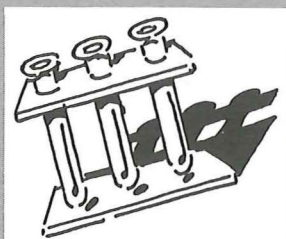


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THE AMERICAN HOMEBREWERS ASSOCIATION MISSION STATEMENT

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

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EDITORIAL



THE SECRET OF YOUR SUCCESS *KEEP IT FUN!*

From the American Homebrewers Association's point of view, the past 15 years have been good to the homebrewing phenomenon. Homebrewing has endured as a grass roots endeavor. It is one of the few things that offers virtually anyone the opportunity to content themselves with a respectable hobby; a hobby that endears itself to pure quality.

Homebrewing is an art. It is a science. It is a hobby, a pastime, a reward and an education. It allows us to control mystical things and learn something about ourselves in the process. Rather than empower, it humbles and inspires. Those who pursue homebrewing know these things with a smile, right?

These times are good to homebrewers. More people were introduced to the charm of homebrewing in 1992 than in any year since Prohibition.

The year is 1993. The American Homebrewers Association is celebrating its 15th year of service to those interested in the art of homebrewing and the appreciation and respect for beer as an alcoholic beverage. The years of growth for the American hobby and for the Association have gone hand in hand. Our membership will swell past 20,000 members in 1993. The 15th year will be another reason to celebrate the continued growth of homebrewing as a respected hobby.

Consider this for a moment: Sometimes the passage of good times, like a swinging pendulum, has the unsettling effect of clouding reason. As with other phenomena in America, growth and popularity have a tendency to turn them into a fad. For lack of focus on reason and quality, fads can evolve, come and go.

Now the good news. We can maintain the hobby. Skeptics will be disappointed to hear from this Association that homebrewing is not a fad. It is here to stay. Far too much of its reason to exist and inspire is the focus on quality. Our challenge is to maintain that focus and not be led astray as we may be tempted to do.

I allude to that philosophy that reminds us, "Relax. Don't worry. Have a homebrew." Homebrewing. Homebrew. The reason we began and continue is because it is fun. It's easy to be caught in the quagmire of negativity and the politics of beer and homebrewing, letting the stresses of our lives take over something we once enjoyed. The point is, let the spirit of homebrewing inspire lessons to help ease the stress, rather than the other way around. Relax. Don't worry. Have a homebrew.


Whether you're a veteran, novice, newcomer or old-timer, don't let negativity overtake your attitude about

something that was meant to be enjoyed. Don't let negativity become a priority on your beer agenda. On the other hand remember don't let some mean SOB run all over you. Be vigilant. Stay informed. And remember that beer and especially homebrew were always meant to be enjoyed.

Homebrewing reflects the grass roots of who we are. Homebrewing was, is and always will be, grass roots. It nurtures. It is the basis for what America and its beer have evolved from and will evolve to. It will be the grass roots for so many other things we don't know about yet. (More on that subject in 1998, our 20th year).

Keep it fun. Now more than ever.

The staff of the American Homebrewers Association is pleased to have onboard more than 16,000 members at this year's beginning. We figure 80 percent (or 12,800) of you will continue with us into 1994. In addition, we anticipate 8,000 new members in 1993. We welcome you to the spirit of homebrewing.

We offer you, and all those to whom you pass the spirit of quality homebrewing, a reminder of the secret to your success, "Relax. Don't worry. Have a homebrew." For 15 years running. 

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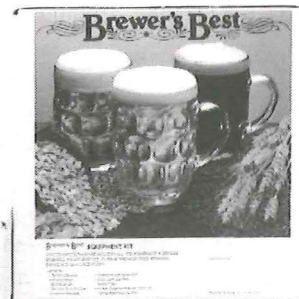
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DEAR ZYMURGY

Our Readers

Corrections

In the 1992 Special Issue (Vol. 15, No. 4) *zymurgy* article "Carboy Carts," Randy Moser suggested adding wheels to the carboy cart described by Paul Lewis.

The proper dimensions for the vertical boards are $1\frac{1}{2}" \times 1\frac{1}{2}" \times 13"$ not $1\frac{1}{2}" \times 3" \times 13"$.

In the same issue on page 14 in "Available Store-Bought Equipment" the number of grains per ounce should equal 437.5 grains.

Also on page 65, in "Closed System Pressurized Fermentation," the third paragraph under Pressure Gauge and Bleedoff should read: "Take the foot-long vinyl hose and dip one end in hot water. Push onto the other arm of the hose barb T. Slip two worm clamps on the hose. Dip the other end of the hose in hot water and push onto the 0 to 30 psi gauge hose barb."

We're Listening

Thanks for all the responses to *zymurgy's* new look! Overall reactions are very positive with some comments on the typeface looking light. We see the possible difficulties in the typeface, so you'll notice a revised version starting with this issue. Enjoy!

HOMEBREWING MISREPRESENTED ON NATIONAL TV

Dear *zymurgy*,

I saw Charlie Papazian's book (*The New Complete Joy of Home Brewing*,

Avon, 1991) on TV the other day in the oddest scenario. I was watching (aaargh, I admit it!) *Cops* on Fox television network, and they showed the execution of a search warrant for distillation equipment. Nothing the police found that was shown on screen was distilling equipment; however, it looked like a wort chiller, a keg-based brew kettle and a tap system with cooled lines running through a picnic cooler, among other things. The police officer explained to the camera,

incorrectly of course, the purpose of the pieces of the "still" and concluded with a remark to the effect that it was good that this fellow was caught, because someday he'd get his recipe a little bit off and people would be blinded or killed. Hmmm. Anyhow, the last shot in the scene showed a copy of *The New Complete Joy of Home Brewing*. Strange, strange world.

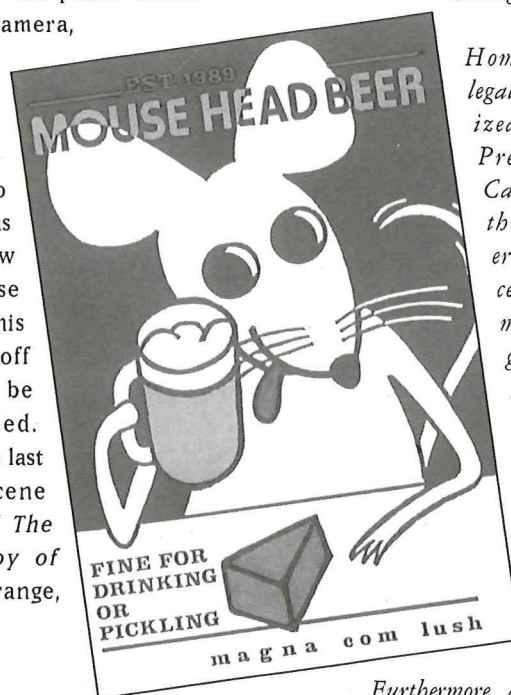
Kurt Denke
Seattle, Washington

The following response was sent to John Langley and Malcom Barbour, producers of the show.

Dear Sirs,

It has come to our attention by several of our members that there was a

great misrepresentation on one of your episodes of *Cops*. On Sunday, Nov. 8, an episode of the television program *Cops* depicted an execution of a search warrant for distillation equipment. Nothing the police found that was shown on screen was distilling equipment. The equipment shown was clearly home beer-making equipment; a cooling device for unfermented beer (the copper coil), a brew kettle and a beer tap dispensing system, among other things.



Homebrewing is legal. It was legalized in 1978 by President Jimmy Carter. As far as the federal government is concerned an adult may brew 100 gallons per year and a head of household with more than one adult living in it may brew 200 gallons per year — legally.

Furthermore, during the program a police officer explained to the camera, incorrectly, the purpose of the pieces of the "still" and concluded with the remark that it was good that the suspect was caught because someday he'd get his recipe a little bit off and people would be blinded or killed. And finally perhaps the most serious misrepresentation was a parting

close-up of a copy of the book, *The New Complete Joy of Home Brewing*. I'm amazed at such extremely poor script writing, fact checking and inaccuracy.

There are no known pathogens that can survive the beer-making process. Beer is not distilled. Homebrewing beer has nothing to do with moonshining and the book you showed is about beer not whiskey—it even says so on the cover.

There are about one million homebrewers in the United States. The credibility of your show seems to be right down there with the National Enquirer. Your program has offended America's one million homebrewers and the 20 million others who appreciate and responsibly enjoy their efforts. I would suggest that your script writing and fact checking staff take more care in their presentation of material.

Sincerely,

Charlie Papazian

President, American Homebrewers Association and author, *The New Complete Joy of Home Brewing*, Avon books, 1992

TRY ALL-GRAIN BREWING

Dear *zymurgy*,

I always look forward to my next issue of *zymurgy* and read it with interest. I especially enjoyed the article *For the Beginner* in *zymurgy* Summer 1992 (Vol. 15, No. 2). Although I have been brewing since 1974 and have been using all-grain recipes only since 1987, I believe I can always learn from your many interesting articles.

The closing statements from Rusty McCrady on time spent brewing extract beer prompted me to write because I only spend 4 1/2 hours from start to finish on my all-grain recipes. Granted, one must have the proper equipment (I use a wort chiller) and a battle plan in order not to have wasted steps. I use an Igloo five-gallon water cooler for my mash tun (an idea from an earlier issue), so one doesn't need sophisticated equipment.

I guess the intent of this letter is to encourage brewers to try all-grain brewing and not be intimidated by what seems to be a very complicated and time-consuming operation. The rewards are there, waiting for you!

Sincerely,

David W. Wilhelms

Aberdeen, Washington

ZYMURGY INDEX IN LIBRARIES

Dear *zymurgy*,

As a novice homebrewer and librarian, I was pleased to find *zymurgy* is one of the magazines indexed by an indexing service we subscribe to. The company, UMI, has a family of computer-based indexes called Proquest—the name that appears on the computer screen in flashy colors. One of the Proquest indexes is called Periodical

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← Special offer—Michael Jackson video "The Beer Hunter" 2 Volume set - \$24.95 →

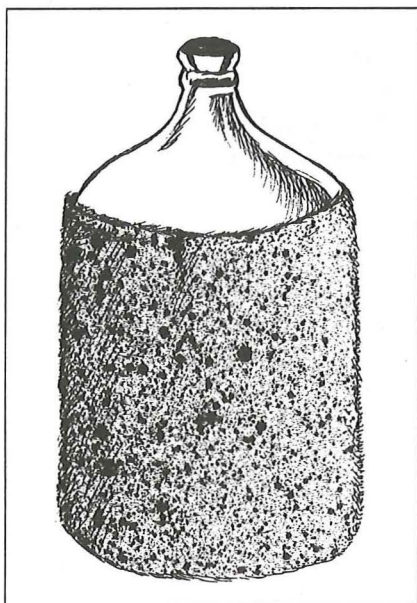
Abstracts Online; Library Edition which appears to index *zymurgy* as far back as 1989. The Library Edition is a new product and your readers may not know that a very thorough index to *zymurgy* may be as close as their local library. With the handy computerized tool homebrewers can, for example, type "Zymurgy and yeast" and find descriptions of every article on yeast in your magazine over the last two or three years.

*David Hutchison
Douglas County Library
Roseburg, Oregon*

CARBOY COOLING

Dear *zymurgy*,

Brewsock (you may think there is no such word, but there is now), which I designed for a five-gallon carboy, works great.



The idea for the brewsock comes from my father in the days before his family had refrigeration. When Dad was a farm boy he would take water jugs wrapped in wet towels out to the field hands. The evaporation from the

towel would keep the water a bit cooler.

Testing the concept, I put one of my cotton socks around a wine bottle and found that in my basement it cooled water about six or seven degrees. In the summer this would bring the brewing temperature down to about 64 degrees F (18 degrees C), which is cool enough to brew ale. Of course, once in a while you will have to spray the brewsock with water.

The brewsock is very simple to make. Buy a bath towel. Trace a circle using the bottom of the carboy in one corner and make a rectangle out of the rest. Fold the rectangle in half and run stitches down the ends. Sew on the circle. Turn inside out and put on the carboy.

Sincerely,
*Mark S. Elliott
Gallup, New Mexico*



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A S S O C I A T I O N NEWS

Karen Barela

Happy 15th Anniversary AHA!

The AHA and *zymurgy* are celebrating 15 years of providing quality information and services not available anywhere else. We are unique in what we are able to offer. With all of our efforts to increase the awareness of how great homebrewed beer can be, we haven't

on the face of the earth that can compare to the AHA National Homebrewers Conference. And July 26 through 30 in Portland, Ore., is where you should be.

Renowned beer expert Michael Jackson, author of the *The Simon & Schuster Pocket Guide to Beer* (Simon & Schuster, 1988) and *The New World Guide to Beer* (Running Press, 1988), will be there. Greg Noonan, owner-brewmaster of the Vermont Pub and



forgotten about our soul. Yes, we are getting bigger. As we balance the responsibilities of a growing membership with the desire to provide quality services, we are constantly striving to capture the spirit of homebrewing and to be as fun, friendly and accessible as possible. We're here for you.

Brewing Frontiers

Fun and excitement! Beer and more beer! Famous and infamous brewers! Homebrew and more homebrew! Information and education! Friends and more friends! There is no other event

Brewery and author of *Brewing Lager Beer* and *Scotch Ale* (Brewers Publications, 1986, 1993), will be there. Fred Eckhardt, all-round knowledgeable (and funny) person, author of *Sake (U.S.A.)* (Fred Eckhardt Communications, 1992) and *The Essentials of Beer Style* (Fred Eckhardt Associates, 1989), will be there. Homebrew industry exhibitors will be there. The Oregon Brewers Festival will be there. Clubs, speakers and 400 homebrewers will be there. For a complete guide to the 1993 Conference refer to the insert in this issue. For more information and details contact Karen Barela at (303) 447-0816. Isn't it time you discovered what all the excitement is about? Be there!

JamBEERY

No, not jam-flavored beer. Jambeery, as in a big hall filled with homebrew industry exhibitors (retailers, wholesalers, equipment demonstrators, technical advisers, hop suppliers and more) homebrew clubs from around the country (lots of homebrewed beer, club T-shirts and newsletters, idea exchange and more), and homebrewers (mostly male, lots of facial hair — it's true) from all parts of the world.

This year the Conference in Portland, Ore., again features a combined club night and homebrew expo, but we've expanded it to two days for you to enjoy the benefits of one large room filled with all your favorite things. There will be ample opportunity for locals to stop in and enjoy the Jambeery, as well as plenty of time to mingle with people from all aspects of the hobby. Details are in the Conference insert in this issue. Any business or club wishing to participate should contact Karen Barela at (303) 447-0816 before April 30.

Judged Yet?

The first round of the AHA National Homebrew Competition is fast approaching. Between June 1 and 14, more than 2,000 beers will need to be sampled, judged and scored. We want you to join us. Nothing equals the experience of judging in the National Competition. There will be 28 styles of fresh homebrewed beer all begging for

a score. Judging for beer and mead will take place in four locations: Anchor Brewing Co., San Francisco, Calif.; Wynkoop Brewing Co., Denver, Colo.; Goose Island Brewing Co., Chicago Ill. and Woodstock Brewing Co., Woodstock, N.Y. A huge keg-load of beer thanks to our sponsoring breweries for accepting and storing the entries, and for providing the space to judge. Judging for saké will take place in Portland, Ore., (thanks to F.H. Steinbarts for storing saké entries) and judging for cider will take place in Boston, Mass., (thanks to Boston Beer Works for storing cider entries). For more information and details on how you can participate contact Karen Barela at (303) 447-0816.

BJCP Judge Joins Committee

Eric McClary, a BJCP Judge since 1988, a National Judge since 1991 and a member of the Washoe Zephyr Zymurgists homebrew club in Carson City, Nev., was appointed to the Beer Judge Certification Program Committee. McClary joins three other committee members (John Dale of Neshanic Station, N.J., Russ Wigglesworth of San Francisco, Calif., and Dave Norton of Kenosha, Wis.) as representatives of the judging

community and part of the governing board of the BJCP. The committee operates under a set of bylaws designed to provide goals and procedures for the program. The committee seeks com-

ments and suggestions from AHA or HWBTA members and from registered judges. Jim Homer of the AHA and Pat Baker of the HWBTA are co-directors for the program and James Spence is the BJCP administrator operating from the AHA. The program has grown to more than 850 participants and exams are offered both in the United States and Canada. For more information about the BJCP contact the committee members or the AHA.

New AHA Membership Rates

On June 1, 1993, the annual AHA membership dues will increase from \$25 to \$29 per year. About three years have passed since our last increase. We hope you'll agree that there have been significant improvements in the quality of our services, all supported by your membership dollars. We've completely redesigned and expanded *zymurgy* with

you, our members, in mind, giving more information while highlighting the fun of your favorite hobby. We've taken steps to improve the BJCP and SCP programs, and to expand the National Competition and National Conference in an effort to bring you more information about beer and brewing.

Our commitment to improving the quality of our services has never

been stronger. We are working constantly to enhance services and our guarantee to you has never been more sincere. As our membership grows (we've gained 9,500 members in the

past three years, from a 1989 total of 7,432 to a 1992 year-end total of 17,000) we've strengthened our resolve to promote the beliefs in our mission statement.

Anyone wishing to renew or extend their membership at the old rate must do so before June 1, 1993. Check your mailbox for a special renewal form or contact us directly.

Send Beer News

It will come as no surprise that the homebrewing industry is growing at a substantial rate. Our own membership continues to grow, the industry has never been stronger and the number of homebrew-related events has expanded tremendously in recent years. With the goal of promoting public awareness and appreciation of the quality and variety of beer, we've put forth a concerted effort to get homebrewing into the press and out to the public. In the last 12 months we were quoted or mentioned in well over a dozen newspaper and magazine articles, including the *Chicago Tribune*, *Los Angeles Times*, *Mother Earth News*, *San Francisco Examiner*, *Small-Scale Agriculture Today* and *Washington Post*. An additional two dozen general homebrewing stories appeared in newspapers and magazines nationwide. We were even contacted by "Jeopardy," to confirm information about homebrewing that appeared as an answer in the category on hobbies.

With all of the great publicity being generated by the growth, we are finding it almost impossible to keep up with the media attention. We are seeking your help in keeping us abreast of what is happening in the media. Anytime you see a story about homebrewing, clip it, date it and send it to us. Call us if you hear something on the radio or see something on TV. We are interested in all types of stories on beer, brewing and homebrewing. We need you to be our eyes and ears, our connection to



Eric McClary

the media in places all across the country. While we can't be everywhere at once, our membership has enough geographical diversity to help us cover the news. Thanks to all who have already sent us information (Vincent Argondezzi, Ed Busch, Lauren Clark, Ray Daniels, Paul Edwards, Ken Kane ...). Keep it coming.

Environmentally Friendly Choices

Thanks to all who contacted us with comments about the 1992 Special Issue, a year-long project that required more organization and planning than the space program! Well, maybe not. While putting together the 1992 Special Issue we knew we had something big. A magazine so big, in fact, that the size required us to have the magazine "perfect" bound (with a spine rather than stapled). This type of binding did not allow for a mailing cover and required

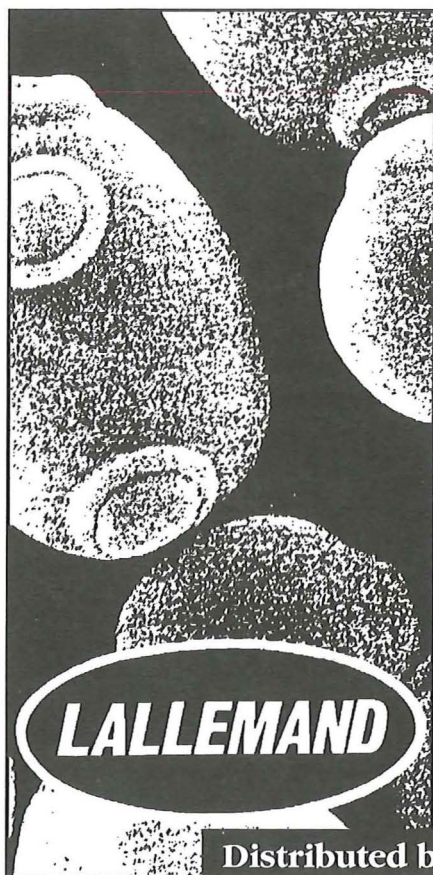
us to use a plastic wrap. We searched and found a bag that is biodegradable and environmentally friendly. (They make great pooper-scoopers when walking Fido around the block!) We are always striving to participate in the global effort to reduce, recycle and reuse. Last year, the Association of Brewers participated in our local recycling program, saving seven trees, 25 pounds of air pollutants, 1.26 yards of landfill material, 1,764 kilowatt hours of energy and 2,940 gallons of water. At this point we are still planning the size of our future issues, so you will see either a mailing cover or the plastic wrap again.

Beer Journeys

Beer and brewing, business and pleasure, homebrewers and micro/pubbrewers, friends and associates — these are all good reasons to join us in New Orleans, La., for the Institute for Brewings Studies

1993 National Microbrewers Conference and Trade Show, *Brew Bayou*, April 18 to 21. Several members of the AHA staff will be on hand to share the experience (translation: we'll be working) with the IBS and to meet area homebrewers. The Crescent City Homebrewers are holding an AHA-Sanctioned Competition April 17, the day before the Conference begins and we expect to help judge and enjoy some homebrew.

Charlie Papazian, AHA president; Karen Barela, vice president; Elizabeth Gold, *zymurgy* editor-in-chief; Linda Starck, *The New Brewer* and *zymurgy* advertising manager; and the IBS staff invite you to join us. Papazian also will be in Gainesville, Fla., as guest of the Hogtown Brewers March 19 to 21 to give a BJCP exam, meet local homebrewers and sample their brews. Barela and Starck will be in Vancouver, British Columbia, Canada, for the Home Wine and Beer Trade Association Annual Conference from April 29 through May 2. As always, the AHA staff looks for-



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ward to meeting local homebrewers in the cities where we travel, and we hope you'll seek us out.

Celebrate Homebrew Day

National tofu day, eat raw cookie dough day, national barefoot day — who celebrates these anyway? Well, one day we plan to celebrate is Saturday, May 1, National Homebrew Day. The Home Wine and Beer Trade Association is holding its National Conference on this weekend. Homebrew shops and clubs gain extra publicity and media attention by planning special events to coincide with National Homebrew Day. If you need help or want some fresh ideas on how you can participate, contact Marketing Director Matthew Waller at (303) 447-0816.

1994 Conference Colorado Bound

The Rockies in the summertime with sunshine and moonshine (as in celestial), surrounded by brewers and breweries. The AHA has begun planning the 1994 AHA National Homebrewers Conference in our home state. We have not hosted a Conference since 1988, (remember when the Competition was judged all in one location?) and we are looking forward to bringing the Conference home. Now is the time to send your ideas for speakers, topics, special events or whatever you would like to see happen. Charlie riding a bronco? You never know; if you request it we just might make it happen.

Send Your Article Ideas

zymurgy welcomes ideas, outlines, proposals or manuscripts on the subjects of beer, cider, mead, saké and brewing. All submissions will be carefully considered. Direct inquiries to Elizabeth Gold, *zymurgy* editor-in-chief, PO Box 1679, Boulder, CO 80306-1679.

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CALENDAR

MARCH

- 12-13** March Mashfest, **AHA Sanctioned Competition**, Fort Collins, Colo. Contact Mark Beck at (303) 221-0524.
- 13** **BJCP Exam**, Riverside, Conn. Contact Keith Symonds at (212) 988-5565.
- 14** **BJCP Exam**, Malvern, Pa. Contact Richard Gleeson at (215) 833-2357.
- 19-21** **BJCP Exam** and The Hogtowne Brewers host Charlie Papazian, Gainesville, Fla. Contact Ray Badowski at (904) 375-7949.
- 20** Pinnacle Peak Patio's Beer Gulch Days, **AHA Sanctioned Competition**, Scottsdale, Ariz. Contact Kevin McElhanon at (602) 481-9797.
- 27** Hudson Valley Homebrewers Third Annual Homebrew Competition, **AHA Sanctioned Competition**, Poughkeepsie, N.Y. Contact Bruce Franconl at (914) 894-5246.
- 29** Bock Is Best, **AHA Club-Only Sanctioned Competition**. Contact James Spence at the AHA (303) 447-0816.

APRIL

- 1-23** Seventh Annual Gem State Homebrewers Competition, **AHA Sanctioned Competition**, Boise, Idaho. Contact LeRoy Otterness at (208) 376-5931.
- 3** Long Island Tri-State Regional, HWBTA Sanctioned Competition, Melville, N.Y. Contact Ben Jankowski at (516) 922-1566.
- 3** **BJCP Exam**, Minneapolis/St. Paul, Minn. Contact Andrew Leith at (612) 937-0022.
- 3** **BJCP Exam**, Sacramento, Calif. Contact Vickey Alvarez at (916) 456-4520.
- 17** Bluff City Brewers Fifth Annual Homebrewers Extravaganza, **AHA Sanctioned Competition**, Memphis, Tenn. Contact Rodney Greene at (901) 278-8005.
- 17** Crescent City Competition, **AHA Sanctioned Competition**, New Orleans, La. Contact William Brantley at (504) 461-9794.
- 18-21** The Institute for Brewing Studies' National Microbrewers and Pubbrewers Conference and Trade Show, *Brew Bayou*, New Orleans, La. Call the IBS at (303) 447-0816.
- 19** **BJCP Exam**, New Orleans, La. Contact Karen Barela at (303) 447-0816.
- 23** **BJCP Exam**, Rochester, N.Y. Contact Turk Thomas at (716) 637-9441.
- 24** Dukes of Ale's Spring Thing, **AHA Sanctioned Competition**, Albuquerque, N.M. Contact Guy Ruth at (505) 294-0302.
- 24** Third Annual U.S. Open Homebrewing Competition, **AHA Sanctioned Competition**, Charlotte, N.C. Contact Gary Ackerman at (803) 329-7753.
- 24** UNYHA 15th Annual Competition/Fourth Annual Empire State Open, **AHA Sanctioned Competition**, Rochester, N.Y. Contact Gary Thomas at (716) 637-4400.
- 24-25** Bidal Society of Kenosha Seventh Annual Competition, **AHA Sanctioned Competition**, Kenosha, Wis. Contact David Norton at (414) 654-2211.
- 25** Bootleggers Homebrewers Fest, **AHA Sanctioned Competition**, Montreal, Quebec. Contact Mike Mathieson at (514) 457-1455.
- 29** **BJCP Exam**, Woodland Hills, Calif. Contact Marty Velas at (818) 831-3705.
- 30-May 2** HWBTA National Conference, Vancouver, B.C. Contact Dee Roberson at (813) 685-4261.

MAY

- 1** **National Homebrew Day**. Call the AHA (303) 447-0816.
- 1** Ithaca Brewers' Union May Day Ale Competition, **AHA Sanctioned Competition**, Ithaca, N.Y. Contact Scott Bickham at (607) 266-0092.
- 1** 1993 Maltose Falcons' Mayfaire, **AHA Sanctioned Competition**, Woodland Hills, Calif. Contact Brian Vessa at (310) 826-5902.

2

Nation's Capitol "Spirit of Free Beer" Homebrew Contest, **AHA Sanctioned Competition**, Washington, D.C. Contact Tim Artz at (703) 824-3703.

5

Garden Homebrew Beer Festival, **AHA Sanctioned Competition**, Bigfork, Mont. Call Garden Bar & Grill at (406) 837-9914.

8

Oregon Homebrew Festival, Corvallis, Ore. Contact Ted Manahan at (503) 926-6228.

8

Big and Huge Homebrew Competition, **AHA Sanctioned Competition**, Madison Wis. Contact Steven Klafka at (608) 255-5030.

14

Green Mountain Homebrew Competition, **AHA Sanctioned Competition**, Burlington, Vt. Contact Tom Ayres at (802) 860-1997.

31

It's Scottish! Scottish Ale, **AHA Club-Only Sanctioned Competition**. Contact James Spence at the AHA (303) 447-0816.

JUNE

1-14

1993 **AHA National Homebrew Competition** first-round judging. Entry deadline is May 13-21. Contact Karen Barela at the AHA (303) 447-0816.

12

Edmonton Klondike Days Open Competition, **AHA Sanctioned Competition**, Edmonton, Alberta. Contact Daniel Marsh at (403) 492-5765.

13

Inland Empire Brewers Sixth Annual Southern California Homebrewing Championship, Temecula, Calif. Contact John Oliver at (909) 886-7110.

19

Mount Clemens 175th Anniversary Homebrew Competition, **AHA Sanctioned Competition**, Mount Clemens, Mich. Sponsored by Mount Clemens Hardware. Contact Art Baarck at (313) 468-5451.

25

Mazer Cup Mead Competition, **AHA Sanctioned Competition**, Ann Arbor, Mich. Contact Ken Schramm at (313) 377-8682.

JULY

24-26

Brewing Frontiers Adventure, Pre-Conference Tour. Call the AHA at (303) 447-0816.

27-30

AHA 1993 National Homebrewers Conference, *Brewing Frontiers*, Portland, Ore. Call the AHA at (303) 447-0816.

30

BJCP Exam, Portland Ore. Contact Jim Homer at (303) 447-0816.

30-Aug. 1

Oregon Brewers Festival, Portland, Ore. Contact Widmer Brewing Co. at (503) 281-BIER.

30-Aug. 1

Siebel Institute of Technology seminars, Portland, Ore. Call the Siebel Institute of Technology at (312) 463-3400.

AUGUST

1

Second Annual Central Illinois Homebrew Competition, **AHA Sanctioned Competition**, Normal, Ill. Contact Tony McCauley at (309) 452-1084.

9

Weiss Is Nice, **AHA Club-Only Sanctioned Competition**. Contact James Spence at the AHA (303) 447-0816.

28

New Mexico State Fair ProAm, **AHA Sanctioned Competition**, Albuquerque, N.M. Contact Guy Ruth at (505) 294-0302.

SEPTEMBER

TBA

The Fifth Annual Trub Open, **AHA Sanctioned Competition**, Durham, N.C. Contact Jeb Sturmer at (919) 544-6222.

OCTOBER

4

Best of Fest, **AHA Club-Only Sanctioned Competition**. Contact James Spence at the AHA (303) 447-0816.

8-9

Great American Beer Festival XII, Denver, Colo. Call the Association of Brewers at (303) 447-0816.

22

The Taste of the Great Lakes™, **AHA Sanctioned Competition**, Frankenmuth, Mich. Contact Jeff Hervert at (517) 652-3445.

DECEMBER

6

Poignant Porter, **AHA Club-Only Sanctioned Competition**. Contact James Spence at the AHA (303) 447-0816.

To list events, send information to **zymurgy**, Calendar of Events. Competition organizers wishing to apply for AHA Sanctioning must do so at least two months before the event. To be listed in **zymurgy** Summer 1993, information must be received by April 28, 1993. Contact Karen Barela at (303) 447-0816, FAX (303) 447-2825, PO Box 1679, Boulder, CO 80306-1679.

BREW NEWS

James Spence

5,500 YEARS AGO ...

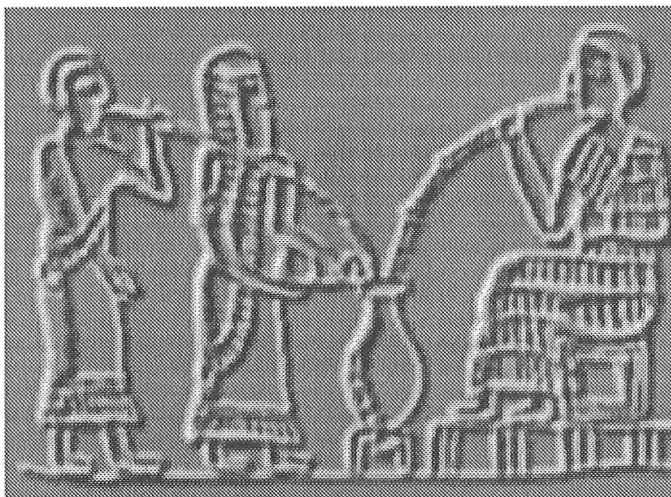
Reporting their findings in *Nature*, a team of archaeologists believes they have found conclusive evidence that Sumerians were brewers. A double-handled pot with crisscross grooves inside caught the attention of Virginia Badler, a graduate student at the University of Toronto. The groove pattern reminded her of the Sumerian pictograph for "beer." An analysis by archaeological chemist Patrick E. McGovern and organic chemist Rudolph H. Michel of the University of Pennsylvania identified the pale yellow residue in the grooves as calcium oxalate, a residue from trub.

The pot from the Godin Tepe ruins in western Iran is the earliest chemical evidence of beer, and is between 5,100 and 5,500 years old. Last year the same team identified the earliest evidence of wine in other jars from the same room.

IT'S THE WATER

Joke about "dry" beer and "light" beer all you want, but the product is literally here. South Hills dehydrated beer is a powdered concoction of maltodextrin, natural and artificial beer and malt flavors, dried beer and corn syrup

solids that, when mixed with very cold water, produces a beer-flavored, carbonated, non-alcoholic beverage. The beverage is described as being refreshing, although a bit sweet, and is a convenient source of carbohydrates. The



From supplement to the Journal of the American Oriental Society.

manufacturer says grain alcohol or vodka can be added to produce an alcoholic beer. Executive Network Inc. in Eugene, Ore., markets the product.

Publisher's note: zymurgy staff had a chance to try some. The "beer" flavor left much to be desired—to say the least.

HAZY DAYS GONE BY

The *Moscow-Pullman Daily News* published in Moscow, Idaho, and Pullman, Wash., reports that Judy

Cochran at Washington State University is helping brewers make beer clear without chemicals or other artificial processes. According to Cochran, a substance in barley called proanthocyanidin combines with protein in beer and

precipitates when the beer is chilled. Homebrewers call this phenomenon "chill haze" because the beer appears cloudy. As the beer warms up, the haze disappears. Cochran genetically removes proanthocyanidin from barley, then cross-breeds the new variety with standard brewing barley to eventually produce proanthocyanidin-free barley. Her work is funded by Denmark's Carlsberg Brewery.

LOW ALCOHOL OR NO HOMEBREW

According to *All About Beer* magazine, to get a license to brew beer in Japan you must make a minimum of 2 million liters annually. Obviously, this law makes homebrewing illegal. Mr. Yamanaka, head of the Japan Association for the Promotion of Home Brewing, is Japan's only importer of homebrew kits. How does he get around the law? In Japan, beverages containing 1 percent or less alcohol are



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exempt from the law. So Mr. Yamanaka went to Edme Ltd. in England and asked them to make a beer kit with instructions to make a 1 percent alcohol beer. The instructions say to use 40 liters of water and no sugar, and brewers are warned that deviating from the recipe is illegal. When the tax collectors started asking questions, Mr. Yamanaka told them to go find someone else to harass. He hasn't heard from them since.

BEER CAMP

Beer Camp isn't just a clever headline—it's a weekend of beer appreciation offered by the Oldenberg Brewery in Fort Mitchell, Ky. Campers checked in Friday evening and enjoyed a selection of nearly 100 different beers in the hospitality suite with other beer lovers



Cliff Beringer and Emma Thompson
enjoying Beer Camp at Cincinnati's Oktoberfest.

from all over the country. At 8 a.m. Saturday morning, campers assembled in Oldenberg's Great Hall for reveille, continental breakfast and the tapping of the camp beer. Beer archaeologist Alan Eames gave a talk on historical temperance movements, the Bloatarians homebrew club demonstrated homebrewing

and a beer-oriented lunch was hosted by Daniel Bradford. Afternoon tours were given of Oldenberg's worldclass breweriana museum and three classic Cincinnati pubs. Campers graduated after Sunday brunch and were shuttled to an afternoon at Cincinnati's *Oktoberfest Zinzinnati*. For information about Beer Camp call (800) 426-3841.

AHA SANCTIONED COMPETITIONS

MID-SOUTH EXTRAVAGANZA

The Mid-South's fourth Annual Homebrew Extravaganza was April 24 and 25, 1992, in Memphis, Tenn. Jim Gosney of Cordova, Tenn., took best of show out of 94 entries.

DOCK STREET

The second annual Dock Street Brewing Co. Homebrewers Competition had 118 entries at the April 26, 1992, event in Philadelphia. Bob Grossman of Hadden Heights, N.J., took best of show with a cream ale.

GREEN MOUNTAIN

Mike Fertsch of Woburn, Mass., took best of show at the 1992 Green Mountain Homebrew Competition out of 180 entries. The May 2 competition was in Burlington, Vt.

ORANGE COUNTY FAIR

Skip Virgilio of San Diego, Calif., won best of show at the Orange County Fair in Costa Mesa July 11 to 17, 1992. His export beat 55 other entries.

FIRST CENTRAL ILLINOIS

Scott Eckdahl, of Normal, Ill., took best of show with a blueberry mead in the First Central Illinois Homebrew Competition. The Aug. 15, 1992, competition in Oakwood, Ill., and had 106 entries.

JOSEPHINE COUNTY FAIR

Aug. 15, 1992, saw 11 entries at the Josephine County Fair Amateur Brewers Competition in Grants Pass, Ore. Jerry Elder of Grants Pass took first place with an imperial stout.

SAN MATEO COUNTY FAIR

San Mateo, Calif., was the site of the San Mateo County Fair Aug. 16, 1992. Frank Bond of Boulder Creek, Calif., organized the competition's 72 entries.

NEW MEXICO STATE FAIR

The 1992 New Mexico State Fair ProAm Beer Competition had 113 entries in Albuquerque on Aug. 22. Scott Moore of Albuquerque took best of show with a strawberry altbier.

WESTERN WASHINGTON FAIR

Steve Lovin of Tacoma, Wash., took best of show out of 155 entries in the Puget Sound Amateur Wine & Beer Makers Club Western Washington Fair Aug. 30, 1992, in Puyallup, Wash.

SAN FRANCISCO FAIR

Seventy-nine entries competed in the San Francisco Fair Amateur Brewers Competition in San Francisco Sept. 6, 1992. Bill Stender of San Rafael organized the competition.

SONOMA COUNTY HARVEST FAIR

David Rose of Yountville, Calif., took best of show out of 208 entries in the Sonoma County Harvest Fair Homebrew Competition Sept. 12, 1992, in Santa Rosa, Calif.

SUMMERTIME BEERS '92

The East Enders "Summertime Beers '92" had eight entries in Ajax, Ontario, on Sept. 12. Robert McIntosh of Oshawa took first place.

SANTA CRUZ COUNTY FAIR

Sixty-four entries competed in the Sept. 12, 1992, Santa Cruz County Fair in Watsonville, Calif. John Nielson of Felton, took best of show with pale ale.

FRESNO FAIR

Dan Hamilton of Fresno, Calif., took best of show out of 22 entries at the 1992 Big Fresno Fair on Sept. 26.

BREWS AND BLUES

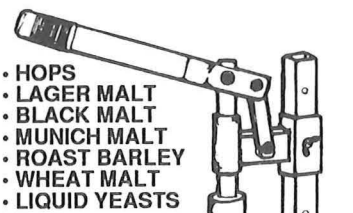
Sept. 26 saw 141 entries compete in the 1992 TRUB 4—Brews and Blues competition in Durham, N.C. Jeanette Smoot of Charlotte took best of show with an herb beer.

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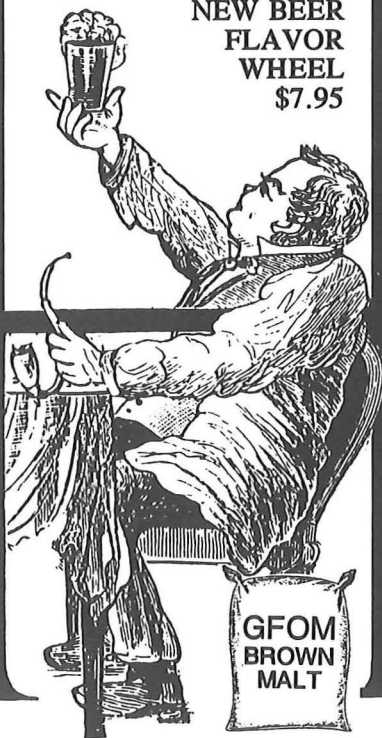
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SAAZ FEST BEER

Jim Lopes of Fresno, Calif., took best
of show out of 25 entries in the Sept. 27,
1992, SAAZ/St. Stans Fest Beer
Competition in Modesto.

SECOND EVANSTON FIRST HOMEBREW CHALLENGE

Thirty entries competed on Sept. 27,
1992, in the Second Evanston First
Homebrew Challenge in Evanston, Ill.
Jim Michaels of Chicago took best
of show.

MICHIGAN STATE FAIR

D.J. Downs of Bloomfield Hills,
Mich., took best of show out of 67
entries at the 1992 Michigan State Fair
in Ann Arbor on Sept. 29.

VIRGINIA INVITATIONAL

Rhett Rebold of Burke, Va., took best
of show out of 46 entries in the Virginia
Invitational Homebrew Competition
held Oct. 3, 1992, in Richmond.

DIXIE CUP

The Ninth Annual Dixie Cup in
Houston, Texas, had 589 entries judged
Oct. 16 and 17, 1992. David Wright of
Bradenton, Fla., took best of show with
a strong Scotch ale.

DLB COMPETITION

Peter Duck of North Ridgeville, Ohio,
took best of show at the Oct. 17, 1992,

DLB Homebrewer's Homebrew
Competition. The Avon, Ohio, competi-
tion drew 32 entries.

MICRO AND PUBBWERIES

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MICROBREWERIES

California: Moonlight Brewing Co.,
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Florida: Beach Brewing Co., Orlando

Illinois: Golden Prairie Brewing Co.,
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Massachusetts: Ould Newbury Brewing
Co., Newbury; Ipswich Brewing Co.,
Ipswich

Oregon: Star Brewing Co., Portland

BREW PUBS

Arizona: Coyote Springs Brewery and
Cafe, Phoenix (formerly Barley's)

California: Benchmark Brewing Co.,
Sunnyvale; Brewhouse Grill, Manhattan
Beach; Cafe Pacifica Brewpub, San
Francisco; Dead Cat Alley Brewery,
Woodland (reopened)

Colorado: Heavenly Daze Brewery,
Steamboat Springs

Florida: Santa Rosa Bay Brewing Co.,
Fort Walton Beach

Iowa: Front Street Brewery, Davenport

Kentucky: Silo Brewpub and
Restaurant, Louisville

Maine: Sunday River Brewing Co.,
Bethel

Maryland: Wharf Rat, Baltimore

North Carolina: French Quarter New
Orleans Cafe and Brewery, Durham (for-
merly Old Heidelberg); Tumbleweed
Grille, Boone

Oklahoma: Bricktown Brewery,
Oklahoma City

Oregon: McMenamin's West Linn Pub
and Brewery, West Linn; Mt. Hood

Brewing Co., Government Camp
New York: Syracuse Suds Factory, Syracuse
Tennessee: Bosco's Pizzeria and Brewery, Germantown
Virginia: Amdo Rodeo, Arlington; The Lone Star Cantina and Brewery, Roanoke
West Virginia: The One Onion Brewery and Bistro, Morgantown

Canada

MICROBREWERIES

Quebec: La Brasserie Portneuvoise, St. Casimir (reopened)

BREW PUBS

Alberta: Brewsters Brewpub and Brasserie (No. 4), Calgary
Ontario: James Gate, Toronto; Quinn's, Toronto

CLOSINGS United States

California: Brown Street Brewery and Restaurant, Napa
Florida: Mill Bakery, Brewery and Eatery (No. 1), Gainesville; Mill Bakery, Brewery and Eatery (No. 2), Tallahassee (both stopped brewing but the restaurants are still open)
New Mexico: Manzano Mountain Brewing Co., Tijeras; the Chile Connection, Taos (restaurant remains open, brewery never opened)

Canada

Ontario: Queen's Inn/Taylor and Bate Ltd., Stratford (restaurant still open)

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

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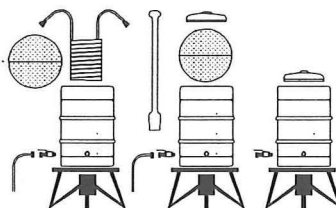
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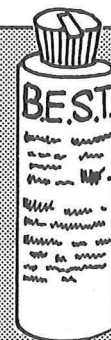
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JACKSON ON BEER

Michael Jackson

NOW JAPAN WILL TACKLE LITTER LOUTS

It is a perverse world. Up the Thames from Young's brewery, which makes some of the greatest ales known to man or woman, are several pubs dispensing the same, fresh and delicious.

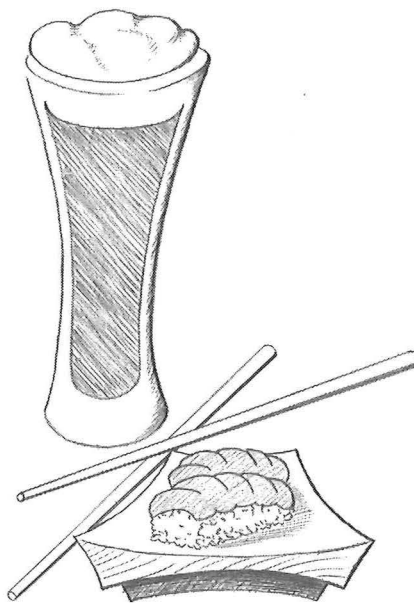
One of my favorites overlooks the riverside walk at Richmond. Outside, teeny-boppers gather clutching those silver post-modernist cans that contain beer imported from the Sapporo brewing company of Japan. You know the ones I mean: those ingenious cans that upon removal of their top become drinking vessels.

It is my admiration for Young's beer, rather than any disrespect for Sapporo, that causes me an initial sigh of exasperation. What turns me into Disgusted of Thames Valley is the kids' liberal way of scattering the Sapporo cans on the riverside walk.

I had the opportunity recently to say a word about this. I was entertained, initially over iced coffee, by no fewer than four senior executives of Sapporo at their headquarters in Japan.

Given their gracious enthusiasm for my visit, it seemed a trifle unfair to raise the question of Richmond's litter problem, but it was a beer can I could not leave unturned. "It is," I conceded, "not your fault, of course, but ..."

A frown crossed the avuncular features of Executive Vice President Takeshi Nagasawa. "You know, we really



must do something about that," he mused. "There must be a way of dealing with the litter problem ..."

Will the convertible can soon learn to biodegrade within seconds of being emptied? Watch this space. Not only has Japan spent the last 100 years becoming one of the world's biggest consumers of beer, it has by far the most technologically sophisticated brewing industry.

Sapporo was founded as a beer-brewing company in the city of the same name as long ago as 1876. The company built a wonderfully Victorian-looking brewery there in 1905 and has been expanding ever since.

The Victorian-style brewery still stands, converted into a beer hall and garden, with its modern replacement next door. A few years ago, I enjoyed a beer in the garden and ate a meal

cooked on a gas-ring fixed in the middle of the table.

There were no discarded cans of Young's beer to be seen; every drop was Sapporo.

The company has long been headquartered in Tokyo. Its offices are in the Ginza district, where it has several beer restaurants.

I was taken to one called The Lion Brasserie to sample the company's hospitality. This cellar restaurant, under the Komatsu building and near the Matsu Zakaya department store, has the atmosphere of a coffee shop, but its beers are fresh and well-presented.

In true Japanese fashion, we nibbled on soybeans, squeezed straight from the pod into the mouth, then sampled a few beers. Actually, to keep my palate clean I did it the other way round. I like to be fair to the brewer's skills.

In the technological vein, Sapporo was the world pioneer in the use of ceramic filters as a method of avoiding pasteurization. The argument is, of course, that pasteurization can damage the hop character and impart a "cooked" flavor. In some countries, because of its fast turnover, draft beer customarily is left unpasteurized.

Sapporo calls its ceramic-filtered beers draft (using the American spelling) even when they come out of a can. It is Sapporo's know-how that gave us Miller Genuine Draft from Milwaukee.

Sapporo Original Draft, known in Japan by the more friendly name Black Label—nothing to do with Carling—is the stuff that goes in the silver can for

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export markets. It has a gravity of 1.044, an alcohol content of 4.8 to 4.9 by volume and 25 units of bitterness. The company claims that Original Draft is lagered for a very respectable six weeks. Longish lagering times are one of several traditional elements in Japanese brewing that in my view set it aside from Australia, the United States or Britain, for example.

Sapporo Original Draft has an appetizingly earthy hop aroma, a softly spritzzy palate and a lingeringly dry finish.

By the standards of international brand lagers, it is a very pleasant brew but hardly a reason for a West Londoner to eschew Young's Bitter.

Youth is, of course, the problem—as any mature man knows. I am now old enough to understand this. When we are babies, our tender mouths are hurt by anything full of flavor. When we are teen-agers, our palates are still unformed. Teen-agers find bland tastes are easiest to accept.

In the past, because there was nothing else, a teen-ager had to learn to enjoy a pint of mild or bitter as an initiation into manhood. Today blander products are available.

This is as true in Britain as it is, in other ways, in the United States or Japan or any other consumer society, but each country likes to legitimize blandness by saying that it is a national taste.

If British youth is biologically suited only for bland tastes, how do these brewers explain the popularity of Indian food? Have they ever eaten chili in the United States or wasabi in Japan?

The latest craze among Japanese brewers is for beers with an "extra clean" taste. While British or American brewers would achieve this simply by forgetting to put the hops in (or should I say hop, in the singular?), the Japanese go to more trouble. They may be making a bland beer, but they want it to have its own integrity.

In Sapporo's case, this is achieved by the *ginjikomi* ("special clean malt") method. When the gristmill separates the grains of malted barley from the husks, a decree *nisi* is issued. The husks are held back so that the mash takes up none of their tannic flavors.

Then at the last minute there is a reunion; the husks are placed in the lauter-tun, through which the mash is run. Thus the mash has the natural filtration through the husks as it would in conventional brewing.

The beer made in this easy way, called *Ginjikomi*, has a good head, a pleasantly malty nose and a light, smooth body with some malty sweetness, gently balanced by dryness in the finish.

If you still doubt Japanese ingenuity, consider the case of the next beer, cheekily called Single Malt. This product represents an attempt to give a clean, malty taste to a beer relatively low in calories. At both production and marketing levels it seems a confused effort.

Next up was a beer of which Mr. Takeshi is clearly very proud, and rightly so. Edel Pils is another all-malt beer, with a hefty 40-odd units of bitterness

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and hopped exclusively with Saaz. It is very much in the style of a Rhineland Pilsener, with a fragrant aroma, a great deal of hop flavor and a pronounced, if abrupt, finish. Unfortunately, only a handful of outlets have this beer as it is available only on tap.

Then came the brew that some beer lovers consider the finest in Japan: *Yebisu*, named after a Shinto god. This is yet another all-malt brew, in broadly the Dortmunder style.

It has a malt accent throughout, from its perfumy aroma to its slightly oily palate to its dryish finish. The hops are German, from Hallertauer and Hersbrucker. Connoisseurs like it best on tap, and I agree, though it is very acceptable from the bottle or can (much as I dislike this latter form of packaging).

We were not done yet. Sapporo has an experimental, top-fermenting brew in the style of a Düsseldorf Altbier. This has a bronze-red color and a light palate for the style, starting malty and sweetish and finishing fruity and drier.

Finally, we got stuck into the Black Beer, brewed by Sapporo since at least 1892, and still somehow hanging in there. It is a very dark lager, almost opaque, with just the odd tawny tinge when held up to the light.

It is a beer of 1.052 (5.2 percent alcohol by volume) with the aroma of coffee being roasted, a toffee palate and an espresso finish.

In the distant past, the brewery promoted it as a Munich-type, but I wonder if it was not originally inspired by one of the darker brews of Franconia or Thuringia.

The malt is both Japanese and imported, to four specifications, and there is a small proportion of rice. The hops also are a blend of Japanese and imported, but all of aroma varieties.

The use of exclusively aroma varieties is a rule throughout the company's breweries, though this may be a matter of interpretation. The Japanese varieties of hops are somewhere between the bittering and aroma type.

In the testing, the Edel Pils was a

revelation to me, though I enjoyed the novelty of the Altbier and was delighted to renew my acquaintance with the Black Beer, a longtime favorite.

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

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

In *zymurgy* Fall Issue 1992 (Vol. 15, No. 3) Michael Jackson's "How Scot's Yeast Make a Belgian Classic Ale" indicated the wrong cold conditioning temperature for Duvel. The sentence should have read, "The bottled product is kept for a further five to six weeks at 39 to 44 degrees F (4 to 5 degrees C) to stabilize the beer."



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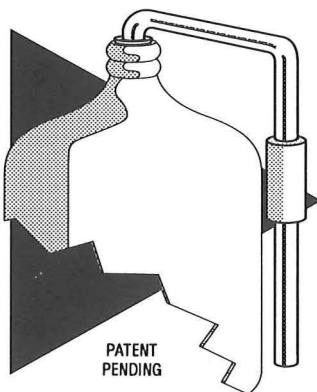
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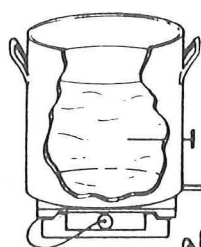
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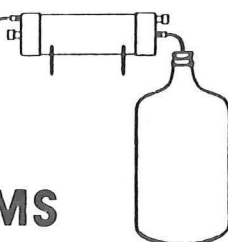
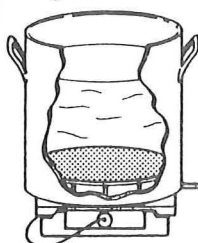
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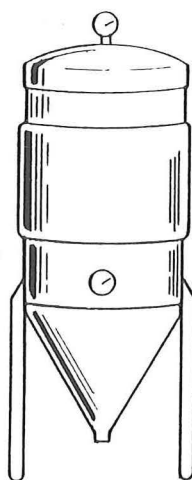
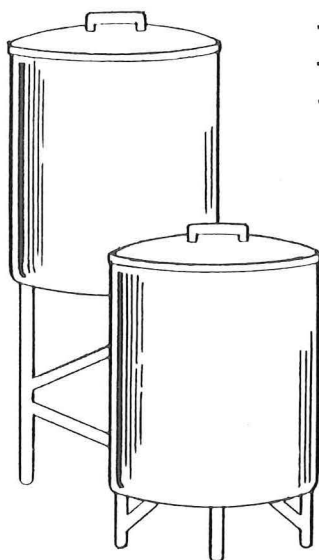
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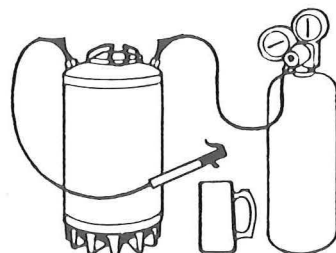
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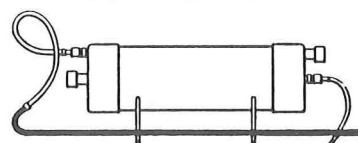
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HOMEBREW COOKING

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Candy Schermerhorn

Simmer Soups with Beer

Soup is undeniably an international language. Every culture and race has its own interpretation of the basic—a savory stock endowed with numerous flavorings. From herbs, spices and seasonings to meats, vegetables and grains, soups of every imaginable kind have been satisfying humankind for eons.

Because beer also has warmed humans throughout the ages, it is reasonable to assume that beer was included in the soup pot. Whether for flavor, flair or lack of potable water, beer was surely the unsung hero of many early cooks.

Combining soup and beer is such a simple matter that even novices can prepare regal soups for brew lovers. To add homebrew to a favorite soup recipe, try substituting beer for a portion (one-fourth to one-third) of the liquid called for, or just prepare the soup with the basic "brewed" stock.

The following recipes represent three memorable soups from around the world, including Chinese Won Ton Soup, Greek Avgolemono Soup (pronounced äv'gō lem'ə nō') and Old European Split Pea Soup.

BASIC BREWED STOCK

A good stock is essential to any soup. Makes 6 cups.

- 10 cups cold water**
- 4 1/2 to 5 cups ale or lager***
- 4 pounds soup bones (beef, pork, poultry or a combination)****
- 3 onion skins (brown papery outside of the yellow onion)**
- 2 small bay leaves**
- 10 whole black peppercorns**
- 2 cloves garlic, mashed**
- 8 stems of parsley (no leaves)**
- 2 teaspoons favorite herbs (optional)**

(1) Pour the water over the bones and slowly bring to a simmer, skimming foam that rises to the top.

(2) When the foam stops rising, add the remaining ingredients and simmer slowly, partially covered, four to five hours.

(3) Strain the broth through a colander lined with cheesecloth. Cook over medium-high heat to reduce by

a third to a half. Cool.

Onion skins add a sensational rich flavor. Freeze fresh onion skins in a sealed bag to use for soup stock. If you prefer stock with an abundance of vegetable flavor, add quartered and peeled onions, carrots and celery ribs.

* If you are making stock from poultry, try Bavarian light lager or classic pale ale. For a beef stock try a brown ale or a Bavarian dark. To make a cream or potato soup, try an herb beer, English bitter, Weisse or a German Pilsener for the stock.

** For unsurpassed richness, brown the bones by roasting in the oven before simmering.



CHINESE WON TON SOUP

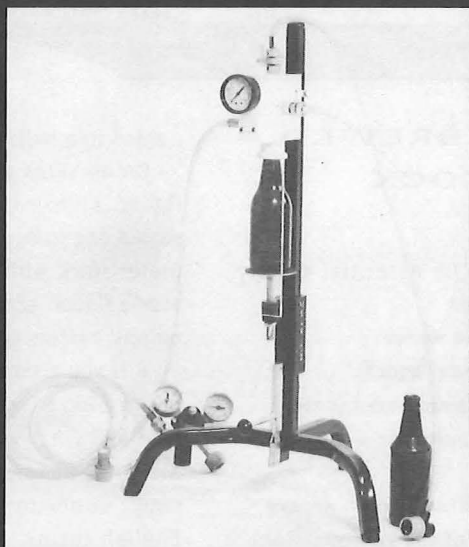
Juicy and piquant, these ginger-spiked pork won tons are simmered in a hearty stock adrift with fresh scallions and slivered spinach. Serves 8 to 10.

- | | | | |
|------------|---|---|--|
| 2 | cloves garlic, finely minced and mashed | 8 | cups rich chicken stock cooked with 1-inch piece of mashed fresh ginger root |
| 2 | scallions, very finely minced | 2 | cups Bavarian-style light lager (try a helles or helles bock) |
| 3 | tablespoons light soy sauce | 3 | tablespoons light soy sauce |
| 2 | teaspoons dark sesame oil | 1 | tablespoon dark, toasted sesame oil |
| 1/2 | teaspoon ground chili (optional) | 6 | scallions cut diagonally in half-inch pieces |
| 1/4 to 1/2 | teaspoon finely grated ginger root (optional) | 3 | cups cleaned and stemmed fresh spinach, finely sliced |
| 3/4 | pound freshly ground lean pork | | |
| 1 | package of won ton skins (approximately 40) | | |

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(1) Thoroughly combine the garlic, scallions, soy sauce, sesame oil, chili and ginger. Pour this over the pork and mix well. Marinate in the refrigerator for 30 minutes.

(2) Place 1 teaspoon of the pork filling lengthwise just below the center of the won ton wrapper. Lightly dampen all edges with water.

(3) Roll cylinder fashion, leaving a half-inch edge unrolled at the top. Pinch both ends closed. Pull the pinched ends together and overlap them, pinching to seal.

(4) Refrigerate the won tons until ready to cook. Heat the broth, lager, soy sauce and sesame oil to a slow boil

(5) Drop the won tons into the broth and simmer for six to seven minutes or until they are tender and cooked through.

(6) Remove from heat and swirl in the spinach and scallions. Serve immediately.



GREEK AVGOLEMONO SOUP

A simple, satisfying soup imbued with the lovely fruity tones of Weissbier. This soup is quite refreshing when served chilled during the heat of summer. Serves 8.

- 6 cups rich chicken stock
- 2 cups Weissbier (try light Weisse with or without yeast)
- 1/2 cup rinsed long-grain rice*
- 4 eggs
- 2 egg yolks
- 1/4 cup fresh squeezed and strained lemon juice
- finely minced mint for garnish
- salt to taste

(1) Bring the stock and Weissbier to a slow simmer. Add the rice and cover, simmering slowly for 15 minutes. Turn off the heat and cover to keep hot.

(2) Beat the eggs and yolks until frothy. Whisk in the lemon juice.

(3) Stir 1/2 cup of the hot stock into the eggs, whisking thoroughly. Stirring constantly, slowly pour the warmed egg mixture into the hot stock.

(4) Cook over low heat four to five minutes or until the soup thickens slightly. Season and serve immediately garnished with chopped mint, if desired.

♦ Or use basmati rice, thoroughly rinsed and soaked for four hours.



HAM AND SPLIT PEA SOUP

Split pea soup assumes a European aura when beer is included in the ingredients. This rugged fare is fragrant with smoky ham, herbs and vegetables simmered in earthy split peas. Serves 8 to 10.

- 4 cups water
- 3 cups Munich dark-style beer

(try a Bamberg smoked beer or Rauchbier)

- 2 meaty smoked pork shanks or hocks, split
- 12 ounces dried split peas
- 1 bay leaf
- 1 clove garlic, mashed
- 2 teaspoons each of thyme and parsley
- 4 tablespoons of oil or butter
- 2 onions, coarsely chopped
- 2 carrots, thickly sliced
- 2 leeks, split, washed and coarsely chopped
- 2 medium baking potatoes, peeled and diced
- salt and pepper to taste
- 1 pound lean kielbasa, cut into quarter-inch thick slices (optional)

(i) In a large pot bring the water, beer and shanks to a slow boil, skimming any foam from the top. When the foaming stops, add the split peas, bay leaf, garlic and herbs. Simmer partially covered for 2 1/2 hours.

(2) Heat the oil on medium and sauté onions until translucent and soft. Add carrots and sauté until lightly wilted. Add the leeks and sauté until just soft.

(3) Add the sautéed vegetables and diced potatoes to the slowly simmering pot and continue to simmer for 1 1/2 hours. Remove the hocks and discard bones and fat, returning any meat to the pot.

(4) Adjust seasonings and add the kielbasa. Simmer an additional 15 minutes.

Variations:

For variety, add cubed root vegetables such as turnips and parsnips. For authentic European flavor, include a washed, split pigs foot with the shanks. ☺

Candy Schermerhorn of Phoenix, Ariz., is the culinary consultant and Instructor at Kitchen Classics. Candy takes great joy in educating the public about beer and its culinary potential through her cooking classes. This enthusiasm for homebrew cooking has prompted her to begin a full-length cookbook devoted to the art and joy of cooking with beer to be published in 1993 by Brewers Publications.

Cheers to You

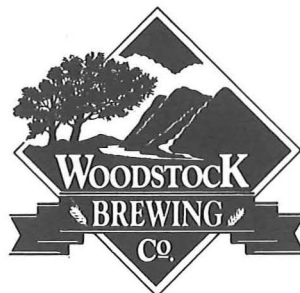
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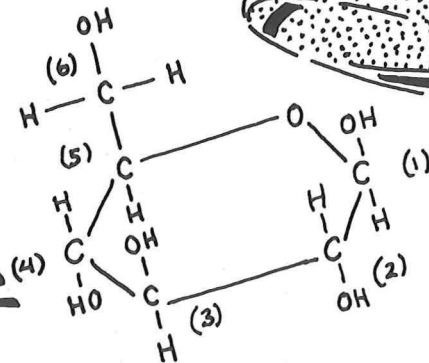
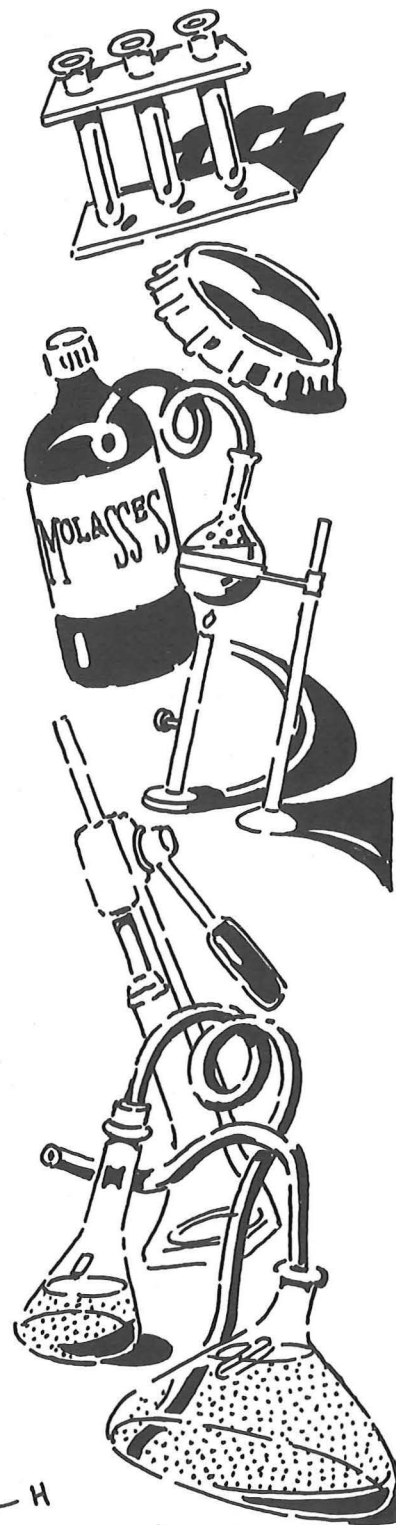
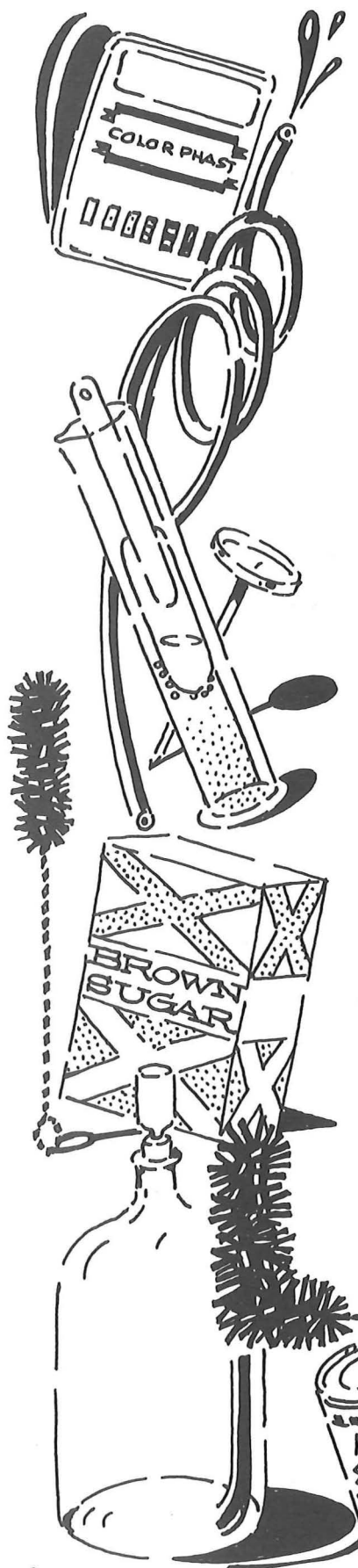
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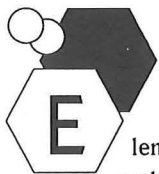
The American Homebrewers Association extends sincere thanks to these four breweries and to Boston Beer Works and F.H. Steinbart Co. for the generous contribution of their time and facilities in hosting the first round of the AHA 1993 National Homebrew Competition.

BASIC ORGANIC CHEMISTRY FOR BREWERS

By Eddie Brian

Chemistry can be a very confusing topic at times, even for those familiar with it. Brewers are faced with a continual barrage of chemicals and compounds, making it important to have a basic understanding of chemistry. I'll introduce some common organic chemical terminology used in brewing and some classes of compounds frequently encountered. Hopefully, by the end you'll be able to distinguish an alcohol from an acid. And as always, just remember—relax, don't worry and have a homebrew.





TERMS DEFINED

Elements are things such as carbon, oxygen, hydrogen, nitrogen and others that are the basic building blocks used to form more complex structures. The elements are organized into a series based on their weights — where they are ordered from the lightest (hydrogen) to the heaviest (lawrencium). When an element is isolated and not associated with other elements, it is in its most basic or elemental form. Atoms are individual units of elements, and an element cannot be reduced to any simpler structure than an atom. Atoms may be combined in various ways to form molecules, which are two or more atoms linked together.

Molecules may be formed by the linking together of two atoms of different elements or two atoms of the same element, as with oxygen, which can be combined with itself to form a molecule of oxygen (denoted by O_2 , indicating there are two atoms of oxygen linked together). A compound is formed when atoms of two or more different elements are linked together, such as with a molecule of water (H_2O), formed from two hydrogen atoms and one oxygen atom. When atoms of a given element bond to other atoms they do so in a specific fashion, giving some predictability to the way compounds form. Atoms of a given element will, in general, form a specific number of bonds or links when combined with other atoms.

THE ELEMENTS

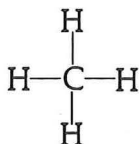
Carbon is the principal element that composes many of the compounds used in brewing. Carbon atoms form the backbone of all organic (associated with life) compounds. The atomic symbol C is used to represent carbon in chemical formulas. However, in complex formulas, as we'll see a little later, the carbon atomic symbols may be left out for the sake of simplicity and clarity of drawing. When

carbon combines with other atoms it forms four links or bonds that can be bound to other carbon atoms or to atoms of other elements.

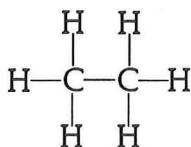
ORGANIC COMPOUNDS

In the simplest of compounds, carbon can bind to four hydrogen atoms (H is the atomic symbol for hydrogen and it always forms one bond) to form methane, commonly known as natural gas. Methane also may be represented by CH_4 , a more simplistic notation but still representing one carbon atom with four hydrogen atoms bound to it. Carbon can bind to itself to form chains of carbon atoms with the other bonding sites taken up by hydrogen atoms. Ethane is the next more complex carbon-hydrogen compound and is formed by two carbon atoms bonded together with the remaining carbon bonding sites filled by hydrogen atoms. Ethane may be written CH_3-CH_3 , or simply C_2H_6 , representing two carbon atoms each with three hydrogen atoms. You may have noticed that in ethane the carbon atoms each bind to only three hydrogen atoms, as opposed to the four hydrogen atoms in methane, because in ethane one of the carbon atom's bonds has been taken up by the carbon-carbon bond.

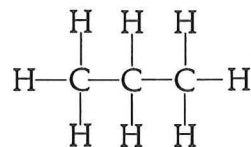
The next more complex carbon-hydrogen molecule is propane, which is three carbon atoms linked together with hydrogen molecules taking up the other



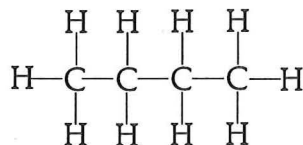
Methane



Ethane



Propane



Butane

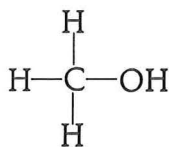
bonds on the carbon atoms ($CH_3-CH_2-CH_3$). A final carbon-hydrogen compound to consider before we move on is butane, consisting of four carbon atoms linked together in a straight chain with hydrogen atoms filling the other bonds ($CH_3-CH_2-CH_2-CH_3$).

I'm sure by now you're wondering what these flammable gases have to do with beer. A little patience, my friends, and read on. You'll find that these simple compounds may be altered into other compounds that may be more familiar.

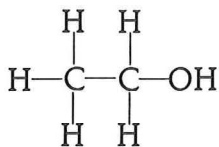
OXYGEN, THE ESSENCE OF LIFE

The next element we'll consider is oxygen, an important component of many organic compounds. Oxygen, represented by its atomic symbol O, always forms two bonds when combined with other atoms. In its elemental form, two atoms of oxygen exist bound to each other, represented as O_2 or $O=O$, showing the two bonds between the oxygen molecules. Hydrogen also exhibits this property of binding to itself and exists as H_2 or $H-H$). Oxygen can combine with carbon and hydrogen in several ways, yielding different classes of compounds of interest to brewers.

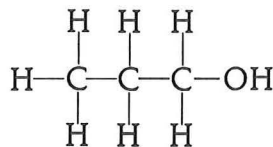
Alcohols are one of the simplest compounds formed from carbon, hydrogen and oxygen, and of these methanol is the simplest alcohol. Notice that methanol is like methane with the addition of an oxygen atom between a



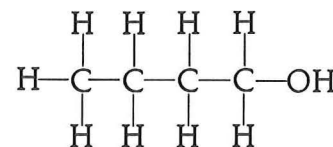
Methanol



Ethanol



Propanol



Butanol

hydrogen atom and the carbon atom. The oxygen atom in methanol has two bonds, one to the carbon atom and one to the hydrogen atom attached to the oxygen. The chemical group that distinguishes methanol as an alcohol is the —OH group (known as an alcohol or hydroxyl group). Methanol also may be denoted as CH₃OH, indicating that there are three hydrogen atoms and one —OH group bound to the carbon atom.

Note the naming conventions used here to denote alcohols. Methanol is like methane with the final *e* replaced by an *ol*, indicating that it is an alcohol. Methanol is wood alcohol and not of much interest to brewers. The next more complex alcohol is ethanol (remember ethane), which is the two-

carbon alcohol known as grain alcohol, or simply alcohol. Ethanol is one of the products of yeast fermentation of beer wort. From our prior discussion it follows that the next two more complex alcohols would be the three-carbon propanol and four-carbon butanol.

WHAT'S IN A NAME?

As an extension of the naming system, it is important to note that carbon chains can be considered as a group when attached to other atoms or molecules. Thus, if methane (CH₄) loses one hydrogen atom and that bond is used to attach the group (CH₃—) to another atom

or molecule, the CH₃— group may be called a methyl group (the *ane* suffix replaced by *yl*). An ethyl group would be CH₃—CH₂—, and a propyl group CH₃—CH₂—CH₂—, with a butyl group being CH₃—CH₂—CH₂—CH₂—. It follows that ethanol could also be called ethyl alcohol because it is an ethyl group (CH₃—CH₂—) attached to an alcohol group (—OH). (For those brave souls interested in the naming of compounds longer than four carbons, see Table 1.)

ALCOHOL STEPCHILDREN

Some alcohols produced by beer yeast may be undesirable and contribute off-flavors to the finished beer. These are collectively known as fusel alcohols or fusel oils (from the German word *fusel* for inferior liquor; they are called oils by some because of their oily nature). These compounds are derived from metabolism of amino acids by the beer yeast. We've already examined two of the fusel alcohols, propanol and butanol. In general, these two compounds are less troublesome because their levels in finished beer are below flavor thresholds. However, some of the other fusel alcohols are less benign. Amyl alcohols are a subclass of fusel alcohols that can contribute banana and solventlike flavors to the beer. Amyl indicates that these compounds contain a total of five carbon atoms, which can be arranged in various ways.

CURIOUSER AND CURIOUSER

The two amyl alcohols found in beer are 2-methyl-1-butanol and 3-methyl-1-butanol. Both of these compounds have



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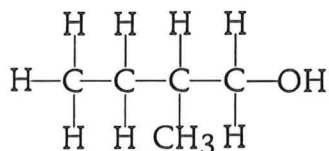
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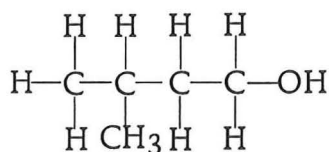
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the basic structure of butanol, the four-carbon alcohol that we have previously examined. However, in both of these compounds a methyl group has been added. The numbers associated with the compounds indicate to which of the four carbon atoms of the butanol chain the various groups are attached. The numbering begins with the carbon atom



2-Methyl-1-Butanol
(Active Amyl Alcohol)



3-Methyl-1-Butanol
(Isopentyl Alcohol)

with the group attached to it that defines the compound type. With butanol, the alcohol group (—OH), by definition is attached to the number one carbon atom. The methyl group (CH₃—) is attached to either the number two carbon atom in 2-methyl-1-butanol or the number three carbon atom in 3-methyl-1-butanol.

The naming system just described is the International Union of Pure and Applied Chemists (IUPAC system) which was developed to standardize naming of organic compounds. Unfortunately, other systems exist for naming organic compounds so the same compound may have several names that seem to exist without rhyme or reason. For example 2-methyl-1-butanol also is known as active amyl alcohol and 3-methyl-1-butanol also is known as isopentyl alcohol. If you're thoroughly confused by now, join the crowd and relax, don't worry, have a homebrew and finish reading this tomorrow.

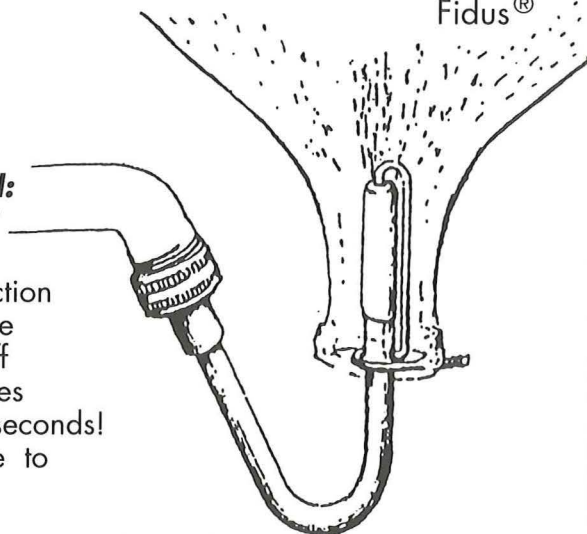
A final group of fusel alcohols that we'll consider before moving on is the phenol alcohols. This class of alcohols

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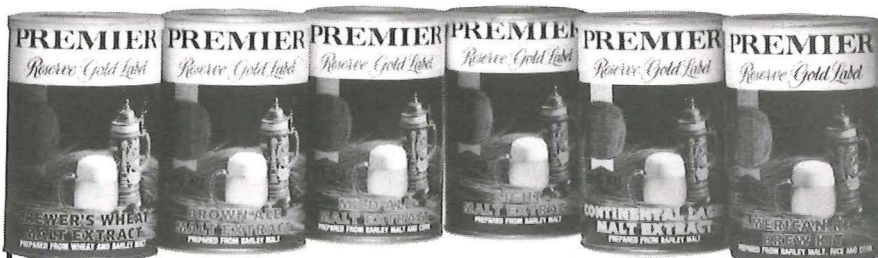
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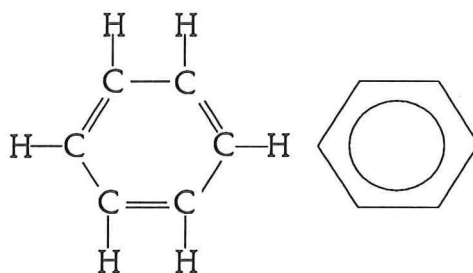
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can contribute a bitter medicinal flavor to the finished beer. To discuss these, I'll have to introduce a new but centrally important concept in organic chemistry, the ring structure.

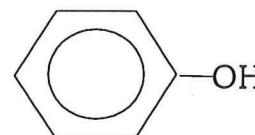
A RING IN YOUR BEER

The carbon structures we've talked about so far have been simple chains of carbon with possibly some side groups attached. Often, though, carbon atoms may be linked together to form a ring. Six-member carbon rings are common in organic chemistry and a common six-carbon ring is benzene. Benzene also introduces the concept of the double bond. Carbon atoms can bond to each other not only by the single bond that we have seen so far but also by double (or even triple) bonds, so there are fewer bonds to be taken up by hydrogen or other atoms. Every other pair of carbon atoms in benzene has a double bond, so for each carbon atom in benzene three bonds are to other carbon atoms and only one is to a hydrogen atom.

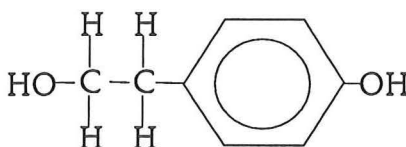
Benzene is frequently drawn as a hexagon with a circle within it, and the double bonds and the hydrogen atoms are taken for granted in this representation. If benzene has an alcohol group



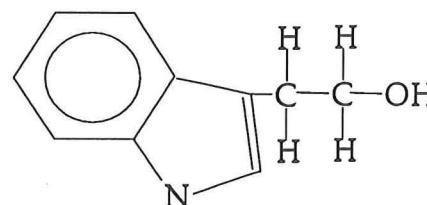
Benzene



Phenol



Tyrosol

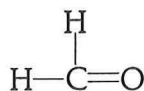


Tryptophol

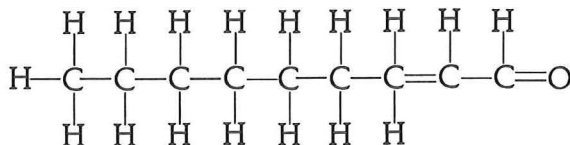
attached to it replacing one of the hydrogen atoms, it becomes phenol. Tyrosol and tryptophol are two alcohols derived from phenol. Tyrosol is like phenol but with an ethanol group attached on the opposite side of the benzene ring. Tryptophol is somewhat more complex, and has, in addition to the six-carbon benzene ring, a five-member ring attached to the side of the benzene ring. One of the carbon atoms of the five-member ring has been replaced by a nitrogen atom (atomic symbol N). These two alcohols are derived from yeast metabolism of amino acids and tend to lend a bitter, chemical-medicinal flavor to beer, although they also are said to be reminiscent of roses. Both of these compounds have the lowest flavor thresholds of any of the fusel alcohols and can play an important role in the flavor profile of finished beer.

ALCOHOL WANNABES

Aldehydes are compounds that have a similar structure to alcohols and are formed either during fermentation where they are preliminary compounds to alcohol formation, or during the staling of beer, where they result from the



Methanal
(Formaldehyde)



2-Nonenal

oxidation of alcohols. The structure that distinguishes aldehydes as such is an oxygen atom attached with a double bond (C=O) to the terminal carbon atom of a carbon chain. Aldehydes can be named by using an *al* suffix and following the IUPAC system the simplest aldehyde is methanal. Unfortunately, the names most commonly used for aldehydes are not the IUPAC names, but are derived from an older naming system for organic acids (more on this later). Methanal is commonly known as formaldehyde, a compound that may be familiar to some. Aldehydes generally are very potent in terms of aroma and flavor, having low sensory thresholds. Anyone who has ever encountered formaldehyde will have a lasting impression of its sensory power. The most important aldehyde in young beer is ethanal or acetaldehyde (CH₃CHO), which is a precursor to ethanol. Acetaldehyde can contribute a green apple tone to the beer.

Other aldehydes important in beer are derived from oxidation of long-chain alcohols. Although such alcohols are found in beer at very, very low levels, the corresponding aldehydes formed from them are extremely potent in terms of flavor threshold. The most important long-chain aldehyde is 2-nonenal, a nine-carbon aldehyde with one carbon-carbon double bond (the 2 indicates the position of the double bond). This compound has a sensory threshold 100,000 times lower than acetaldehyde and even in tiny amounts can contribute significantly to the flavor of beer. 2-nonenal is derived from the oxidation of 2-nonenol, an alcohol normally found in such small amounts in finished beer that it does not contribute to the flavor profile. Once 2-nonenol is oxidized to 2-nonenal, which has a much lower flavor threshold, it can

contribute the stale, papery cardboard flavor found in stale beer. For this reaction to occur, however, requires the presence of oxygen, so if oxygen is excluded as much as possible the production of 2-nonenal can be limited.

ALDEHYDE COUSINS

Ketones are compounds very similar to aldehydes in that they contain an oxygen atom double bonded to a carbon atom (C=O). However, in ketones the carbon atom with the oxygen bound to it cannot be the terminal carbon of a carbon chain. As you remember, in aldehydes the carbon atom with the double-bonded oxygen is always at the end of a carbon chain. Because the key feature

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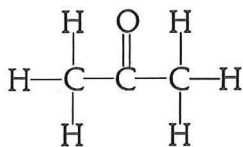
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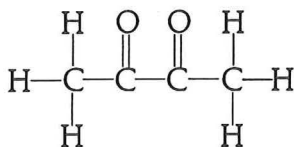
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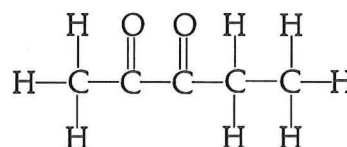
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(Acetone)



2,3 Butadione
(Diacetyl)



2,3 Pentadione

of ketones is a carbon atom with a double-bonded oxygen that is not at the termination of a chain, it follows that the simplest ketone must contain three carbon atoms. The IUPAC ending for ketones is *one*, thus the IUPAC name for a three-carbon ketone would be propanone (remember propane). However, propanone is most frequently known by its common name of acetone.

Of ketones, diacetyl is most important in brewing. As you can see from the structure of diacetyl, it actually contains two ketone groups (and is more properly known as a dione — *di* for two and *one* for ketone). The IUPAC name for diacetyl is 2,3 butadione, with *buta* indicating the compound contains four carbon atoms, *dione* indicating there are

Table 1

IUPAC naming of straight-chain organic compounds where n= the number of carbon atoms in the chain.

n=	n=	n=	n=
1 methane	12 dodecane	22 docosane	32 dotriacontane
2 ethane	13 tridecane	23 tricosane	33 tritriacontane
3 propane	14 tetradecane	24 tetracosane	40 tetracontane
4 butane	15 pentadecane	25 pentacosane	50 pentacontane
5 pentane	16 hexadecane	26 hexacosane	60 hexacontane
6 hexane	17 heptadecane	27 heptacosane	70 heptacontane
7 heptane	18 octadecane	28 octacosane	80 octacontane
8 octane	19 nonadecane	29 nonacosane	90 nonacontane
9 nonane	20 eicosane	30 triacontane	100 hectane
10 decane	21 heneicosane	31 hentriacontane	132 dotriacontahectane
11 undecane			

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Reference Guide to Organic Chemicals

Group	• Informal name	• Formal name	• Character	• Derivation
FUSEL: SIMPLE ALCOHOLS				
	• _____	• propanol	• ethanollike	• yeast metabolism of amino acids
	• _____	• butanol	• ethanollike	• yeast metabolism of amino acids
FUSEL: AMYL ALCOHOLS				
	• ACTIVE AMYL ALCOHOL	• 2-methyl-1-butanol	• banana/solventlike	• yeast metabolism of amino acids
	• ISOPENTYL ALCOHOL	• 3-methyl-1-butanol	• banana/solventlike	• yeast metabolism of amino acids
FUSEL: PHENOL ALCOHOLS				
	• TYROSOL	• _____	• bitter/chemical/medicinal/ sometimes roses	• yeast metabolism of amino acids
	• TRYPTOPHOL	• _____	• bitter/chemical/medicinal/ sometimes roses	• yeast metabolism of amino acids
ALDEHYDES				
	• ACETALDEHYDE	• ethanal	• green apple	• precursor to ethanol/oxidation
	• _____	• 2-nonenal	• stale/papery/cardboard	• oxidation
KETONES				
	• DIACETYL	• 2,3 butadione	• buttery/vanilla	• yeast metabolism or gram-positive bacterial contamination
	• ACETONE	• propanone	• solventlike	• yeast metabolism or gram-positive bacterial contamination
	• _____	• 2,3 pentadione	• honeylike	• yeast metabolism or gram-positive bacterial contamination
ORGANIC ACIDS				
	• LACTIC ACID	• 2-hydroxypropanoic acid	• sour	• bacterial contamination
	• PYRUVIC ACID	• 2-oxopropanoic acid	• salty	• bacterial contamination
	• ACETIC ACID	• ethanoic acid	• vinegarlike	• bacterial contamination
	• _____	• hexanoic, octanoic, decanoic acids	• goaty/fatty/soapy	• yeast metabolism
ESTERS				
	• ISOAMYL ACETATE	• 3-methyl-1-butyl ethanoate	• bananalike	• yeast metabolism
	• ETHYL ACETATE	• ethyl ethanoate	• fruity to solventlike	• yeast metabolism
	• _____	• ethyl hexanoate	• applelike	• yeast metabolism
SULFUR				
	• DMS	• dimethyl sulfide	• sulfur to cooked vegetables	• yeast metabolism of amino acid S-methyl methionine or bacterial fermentation
	• _____	• hydrogen sulfide (H ₂ S)	• rotten egg aroma	• fermentation by yeast - a gas; bacterial contamination

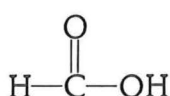
two ketone groups, and the numbers 2,3 indicating to which carbon atoms in the *buta* chain the ketone groups are attached. Diacetyl has a low flavor threshold and imparts a buttery vanilla flavor to beer.

Another dione occasionally encountered in beer is 2,3 pentadione, which can impart a honeylike flavor. The structure of 2,3 pentadione is much like 2,3 butadione, but 2,3 pentadione contains five carbon atoms compared to four carbon atoms in 2,3 butadione. However, it has a much higher flavor threshold than diacetyl. Diacetyl and 2,3 pentadione together make up the vicinal diketones (VDK). Ketones in beer may be produced by the yeast and, for some strains of yeast, this may be considered a defect. However, ketones may also be derived from contamination by gram-positive bacteria.

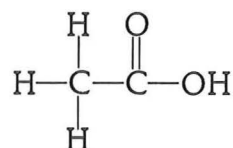
A BURNING ISSUE

Organic acids are somewhat like a

combination of an aldehyde and an alcohol. The group that denotes organic acids is a —COOH group, which consists of a carbon atom with a double-bonded oxygen atom and an alcohol group. Acids can be named by the IUPAC system, where a *noic acid* ending is used to denote an acid. The simplest organic acid, the one-carbon methanoic acid, has a double-bonded oxygen atom, an alcohol group and a hydrogen atom attached to the one carbon atom. Methanoic acid is frequently known as formic acid, a name derived from an old system for naming organic acids. The two-carbon organic acid is ethanoic acid, known by its common name of acetic acid. The



*Methanoic Acid
(Formic Acid)*



*Ethanoic Acid
(Acetic Acid)*

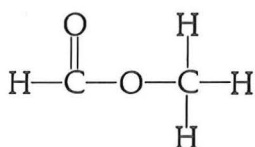
names for simple aldehydes such as formaldehyde are derived from the common names for organic acids. Organic acids in beer are predominantly derived from yeast metabolism and wort trub, but also can be derived from hop staling and bacterial contamination.

Organic acids typically evolved by bacterial metabolism include acetic acid, the three-carbon lactic and pyruvic acids and the four-carbon butyric acid. These compounds impart various off-flavors to beer, with acetic acid producing, not surprisingly, a vinegar flavor. Organic acids derived from yeast metabolism typically have longer carbon chains with six (hexanoic), eight (octanoic) or 10

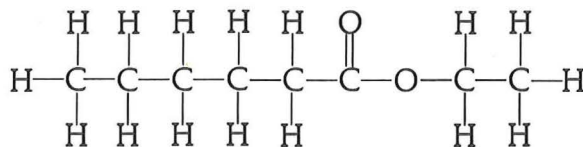
(decanoic) carbon atoms. These compounds give goaty, fatty or soapy flavors to beer. The amounts of these compounds produced by yeast vary greatly between yeast strains.

IT'S IN THE NOSE

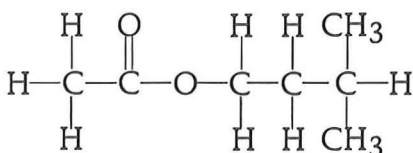
Esters are compounds that can contribute a distinctive aroma and flavor to beer. Traditionally associated with English-style ales, esters are structurally similar to an organic acid, but instead of having the —OH group, the hydrogen atom is removed and replaced with a carbon atom so the oxygen atom with two single bonds forms the link between carbon atoms. It follows that the simplest ester must contain at least two carbon atoms. The IUPAC naming conventions for esters are somewhat more complex than previous compounds, but for those few brave souls who have persevered this far, read on. To name an ester, first determine what the corresponding organic acid name would be if a hydrogen atom replaced the carbon atom(s) attached to the oxygen. Then, replace the *ic acid* ending with *ate*, and precede this by the name of the group attached to the oxygen atom. The simplest two-carbon ester would be named methyl methanoate from methanoic acid which has a methyl group (—CH₃) attached in place to the hydrogen atom in the acid group (or methyl formate with the non-IUPAC acid name). Again, many of the commonly used names of esters do not follow the IUPAC system but are derived from the older system for naming organic acids.



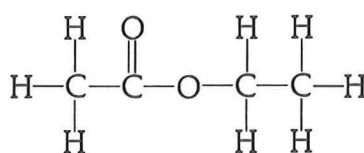
Methyl Methanoate
(Methyl Formate)



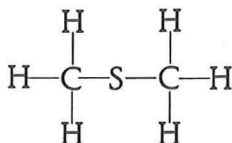
Ethyl Hexanoate



3-Methyl-1-Butyl Ethanoate
(Isoamyl Acetate)



Ethyl Ethanoate
(Ethyl Acetate)

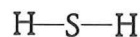


Dimethyl Sulfide

Esters in beer are predominantly a product of higher fermentation temperatures and the type of yeast employed. Though they are classically associated with ale yeast, esters can also be produced by lager yeast. Ethyl acetate (acetic acid [CH₃COOH] with an ethyl [—CH₂CH₃] attached) is found in beer and can be associated with a fruity aroma and flavor, but at high levels may promote a solventlike flavor. Isoamyl acetate (acetic acid [CH₃COOH] with an isoamyl group [—CH₂CH₂CH(CH₃)₂] attached) has a banana flavor and aroma. A final ester, ethyl hexanoate (hexanoic acid [CH₃(CH₂)₄COOH] with an ethyl group [—CH₂CH₃] attached) contributes an apple tone to beer.

A FINAL CHAPTER

Sulfur (atomic symbol S) is an element somewhat like oxygen in that it forms two bonds with other atoms. Most sulfur compounds in brewing and elsewhere are very potent in terms of aroma and flavor. The most important sulfur compound in beer is dimethyl sulfide (DMS), which is derived from yeast metabolism of the amino acid S-methyl methionine. In high enough levels, DMS can contribute a sulfury flavor to beer. DMS also can be created by bacterial fermenta-



Hydrogen Sulfide

tion, especially by coliform bacteria, which leads to much higher levels of DMS. High levels of DMS as produced by bacteria can contribute a cooked vegetable flavor to finished beer.

A second sulfur compound occasionally important in beer is hydrogen sulfide (H₂S) produced during fermentation by yeast. However, because hydrogen sulfide is a gas, it is normally displaced in the fermenting wort by the CO₂ gas produced by yeast. Again, if contaminated by coliform bacteria, high levels of H₂S can be formed, producing a characteristic rotten egg aroma.

FINIS

Hopefully, for those of you who have survived this arduous journey through organic chemistry, you have learned a few facts and have some appreciation of the different classes of organic compounds. This brief synopsis only begins to scratch the surface of the complex chemistry involved in brewing, some aspects of which are not fully understood today. Even if these facts don't help you produce award-winning beer, they should give an appreciation of the complexities involved in brewing. And, as always, relax, don't worry and have a homebrew.

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BIBLIOGRAPHY

Fix, G.: *Principles of Brewing Science*. Brewers Publications, Boulder, Colo, 1989.

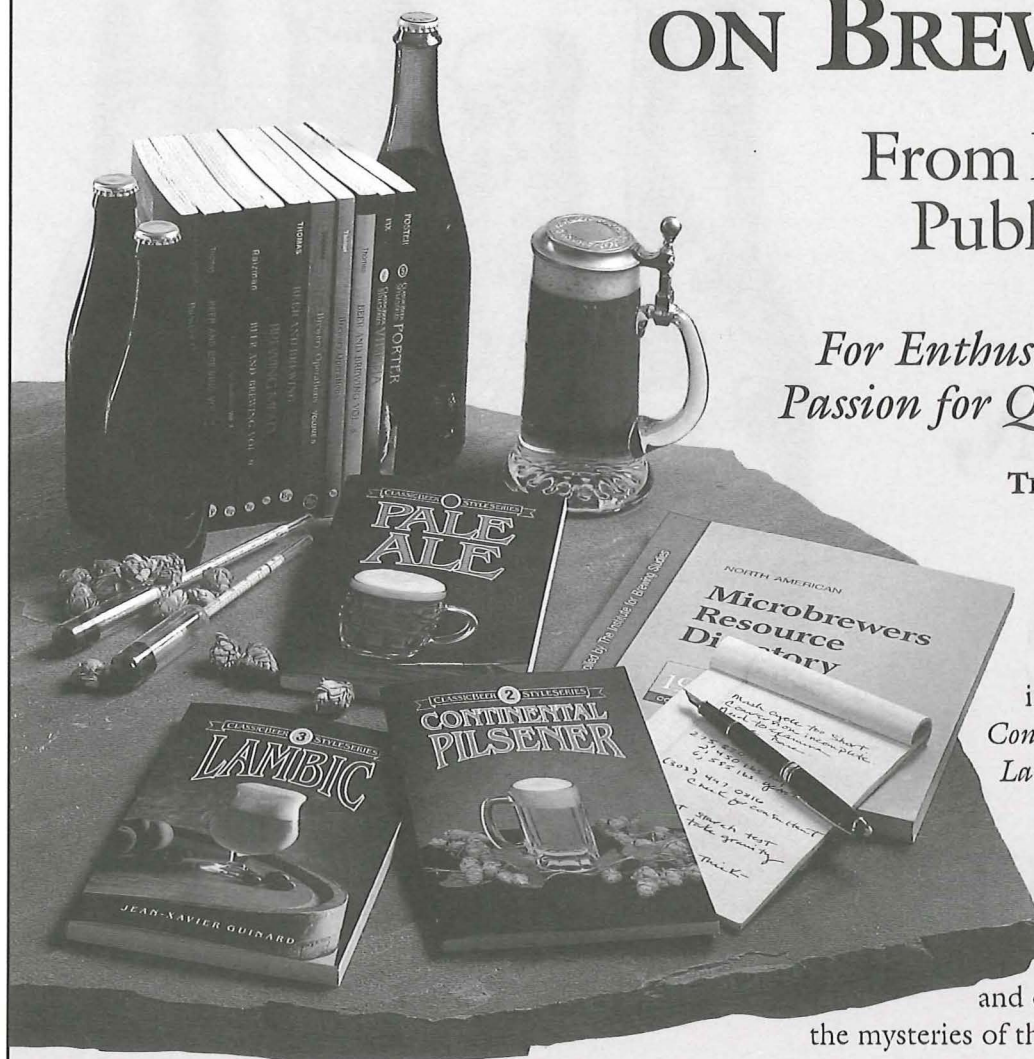
Morrison, R.T. and R.N. Boyd: *Organic Chemistry*, 3rd Ed. Allyn and Bacon, Inc., Boston, 1973.

A physician employed by the State of Arkansas, Eddie Brian's greatest claim to fame has been supplying himself and friends with homebrewed beer. A neophyte brewer, he felt primeval urgings to share his knowledge of chemistry. Because homebrewing is illegal in Arkansas, he dreams of the day all will be able to cry, "Relax, don't worry, have a homebrew," from the rooftops.

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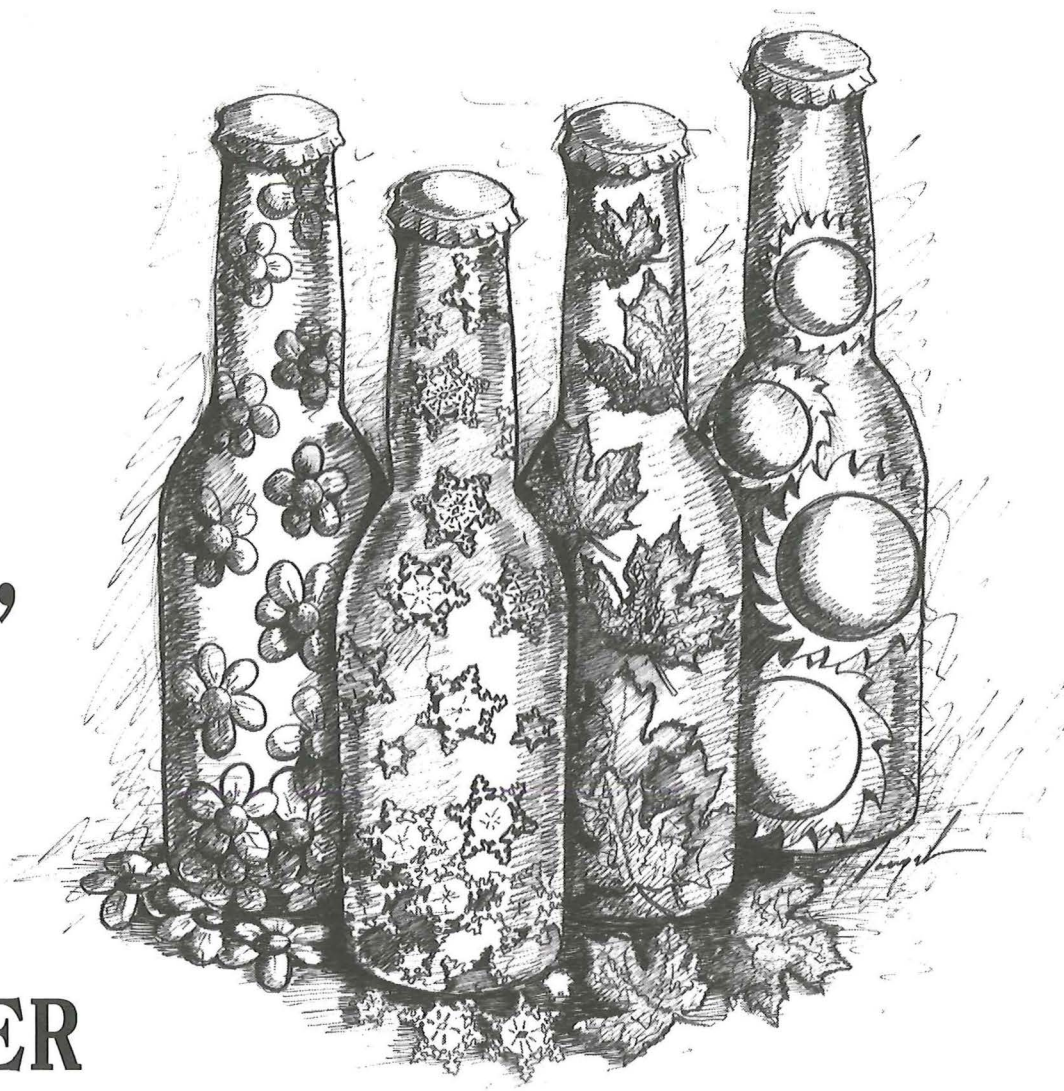
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FOR EVERY SEASON, THERE IS A BEER



BY RAY DANIELS

German brewing tradition dictated that beer was to be brewed during the cooler months of the year, usually from October through March or April. This seasonality arose when brewers discovered that beers fermented when it's hot can become too estery or produce other unfavorable flavors. As a result, the European tradition of brewing was usually limited to those months when the local weather produced appropriate fermentation temperatures.

Homebrewers have wisely learned the lessons passed on by traditions and we now brew mostly when local temperatures match our fermentation

needs. For many of us this means brewing is a seasonal activity that roughly matches the traditional school year in the United States.

Despite this common seasonality in the production of beer, most Americans think of the beverage as a summer drink. Many beer styles have a distinct season that has evolved from the brewing practices and social traditions of the countries where they originated.

As a homebrewer you become more attuned to beer than most non-brewers. When the seasons change, you find yourself wanting something special to accompany the events and moods of each part of the year. But often the sea-

son is upon you before you've had time to think about brewing the beer that belongs to it.

Every March when traditional bock season arrives, I find that only the most organized of homebrewers has brewed a bock in time for the celebration. I also find that other seasons and events come and go as I long for a particular beer as an accompaniment. Seeing this, I resolved to collect a brewing calendar that would tell what special styles to brew each month so that they would be available at seasonally appropriate times. This article has grown out of that effort.

On the following pages you will find

a month-by-month listing that suggests some styles you might consider brewing. The beers are listed by the month in which they should be brewed in order to be ready for drinking at seasonally appropriate times. Not all of the listings are for clearly seasonal beers. Porter, for instance, is served year-round by the ale houses that carry it. But I've seen at least one U.S. brewpub rotate its porter and stout, making the former available during hotter months and reserving the latter for cold weather. This seems to make sense, so I've included it—and others—for your consideration.

Not every style lends itself to seasonal brewing. Some make a fine beverage on any day of the year, while others are nice to have around most of the time for those days when you just feel like having that particular style. To avoid the tedium of listing every style in association with a specific month, I've collected a few general thoughts on seasonal brewing. Then you can read the monthly descriptions a few at a time as the year progresses to help you plan your own brewing calendar.

WINTER

Let's begin at the top of the calendar year with winter brewing ideas. Because winter falls in the middle of the prime brewing season for most homebrewers, there aren't many beers most of us can't brew during these months. But every brewer has limited resources, including time and the number of fermenters available, so you need to narrow the scope of your efforts somehow.

By January, your beer cellar should be full (or at least well stocked) from fall brewing, and it's time to focus on longer lead-time beers or more esoteric brews that you don't want to drink every day. I favor barley wines and strong ales as well as Maibock, and maybe even a Doppelbock to serve in the fall the way the Norwegians do. In addition, you might consider making

some lighter lagers for spring and early summer such as Helles and Dortmund.

If you like to enter homebrew competitions, winter is the time to brew your best beers. The big competitions begin in March and run through July, so many beers that you make in January or February can be at their peak sometime during this period. Of course, some styles like mead, barley wine and even the bocks benefit from long aging periods that can exceed a year in some cases. (Maybe someone will assemble a competition brewing calendar as a complement to this one.)

SPRING

Now is the time to brew any summer beers you haven't already put down for lagering, including Pilseners, Dortmunds, Helles, Weiss and Weizen, American wheat and American lagers. This is also a good time to brew a summer dark ale like a porter or brown and the perfect time to put together a Rauchbier for summer barbecues. Finally, spring is a time to think way ahead to late summer and early fall. Because some of us do not brew much during the summer months, we find our supplies of homebrew nearly exhausted by Labor Day. Before you hang up the brewpot for the summer, put together a little something special for those first chilly fall days or for a change of pace during a cool snap in midsummer.

SUMMER

In summer, many of us enjoy our beer and accept a reduced level of brewing activity. But don't completely stop brewing in the summer. There are some special opportunities, especially when you remember that summer is when you can get fresh fruit and honey. Brew up a batch of mead and keep an eye on the fruit for those special concoctions. If you are a lager brewer and

lucky enough to have controlled fermentation temperatures for that purpose, the summer weather poses no problems and you can continue to brew. For ale brewers an occasional batch may be squeezed in during cool spells or with the help of some neat homebrew devices for cooling your fermenter. A couple of particularly estery styles may be safe to brew in slightly warmer weather, including Weizens and some of the Belgian styles. Then, of course, some homebrewers live in climes so cold that the majority of the summer presents good weather for ale brewing

FALL

For most homebrewers prime brew season returns and it's time to replenish the cellar with your favorite ales that have dwindled away during the summer. Brew the quick ales to start: your favorite pale ale, robust porter or stout—and don't forget to put together your holiday beer. This also is the season for cider and for long-conditioning lagers like those bocks that you want to enjoy in March or April. Don't forget any fruit you might have put away during the summer. Brew it into something special before the cold weather robs you of inspiration. By the time you've stocked the cellar and completed a couple of special seasonal projects, the days will be growing short and it will be time to plan your winter brews!

MONTH-BY-MONTH

JANUARY

Barley Wine: These fine ales can take a long time to ferment and even longer to season. Barley wine makes an excellent year-round addition to any beer cellar. To achieve this, you might just brew a batch every year in

January. A big, generous beer like this serves as a symbol of plenty with which to launch the new year—a sort of brewer's cornucopia. Starting in the second year of this ritual you might end the brewing day by opening a special bottle of last year's batch for a celebratory toast. A worthwhile tradition in every brewery.

English-style Pale Ales: Something about the floral character of English

hops puts me in the proper frame of mind for cool, rainy spring weather. With a fire to warm yourself and a fine ale to sip, let it rain. In preparation for those rainy April days, at least one winter brewing session should be devoted to your favorite pale ale recipe. Make sure the hops are fresh, authentic English varieties (Kent Golding, Fuggles, Brewers Gold and Bullion) and brew away. By the time you're done, you'll be wishing for April showers.

FEBRUARY

Maibock: Time to make those Maibocks! My favorite includes a generous helping of finishing hops to provide a refreshing spring fortifier. This specialty style in the bock family lacks the chocolate and other dark malts found in its traditional bock siblings. This beer may be more typical of the very earliest bocks, which were simply pale beers with high gravity and good hop levels so they could travel for export. For a real experiment, add some wheat and rye to the recipe to simulate the mixed fields of grain that were sometimes harvested for the early bocks.

Saké: If your beer cellar is in pretty good shape from fall and winter brewing, this might be the right month to experiment with saké. Get some koji rice and saké yeast from a homebrew shop that carries the appropriate supplies—they can probably give you Fred Eckhardt's recipe or sell you a copy of his book, *Sake (U.S.A.)*, (Fred Eckhardt Communications, 1992). Then all you need is a lot of rice and a way to steam it. Don't plan to start if you're going to be away from home for more than two nights during the first three weeks: saké requires a few minutes' attention every couple of days at the start. The fruits of your labor should be ready for consumption by May or June, and aged to perfection by early fall.

MARCH

Pilsener: Time to prepare this summer classic, the perfect beer for warm afternoons and the perfect end to the kind of active weekend day that everyone enjoys during the warmest part of the year.

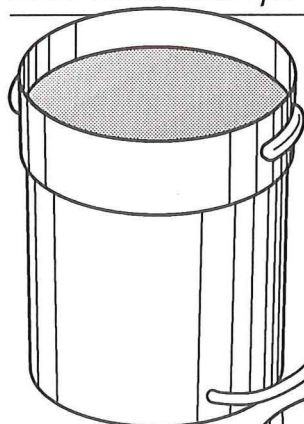
Märzen/Okttoberfest: What better beer to brew in March than the "March" beer, Märzen. This higher gravity beer was traditionally brewed in late spring as a reserve to be drunk during the long hot summer. The beer that remained

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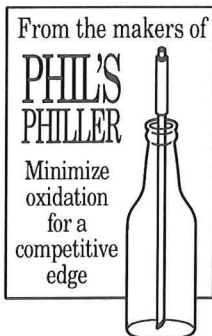
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when brewing weather returned in the fall was then consumed at the annual celebration we now call Oktoberfest. Whether you drink it in summer or fall, this amber lager is a great addition to any cellar. For those with a big mash system: do one big mash, taking the first high-gravity runnings for an Oktoberfest and the lower-gravity second runnings for a Vienna-style batch.

Cream Ale: Another summer treat that benefits from some cold conditioning. Brew a batch now to serve to friends at your summer barbecues and picnics.

APRIL

Brown Porter: Some think of this as a summer dark ale, an alternative to stout during the warmer months and longer days. Beers in this style provide sustenance for spring cleaning and those beginning-of-summer outdoor chores.

Wedding Ales: More and more I hear of people making beer to serve at their own or others' weddings. Don't wait until the last minute. If there is a wedding in June or July that you might be asked to bring beer to, brew now. Maybe something festive like an extra special bitter or a beer with real character like a Belgian Witbier.

Smoked Beer: If you enjoy a good smoked beer with summer barbecue, now's the time to brew it. Smoke some malt on the barbecue and formulate your own "Rauchbier" specialty. A classic cold-conditioned Rauchbier lager should be ready just in time for the Fourth of July.

MAY

Strong Scotch Ale: Every now and then during summer you need a good beer that will sate your taste buds and your appetite. Strong Scotch ales are a wonderfully tasty style that seem to go

well with many seasons and attitudes. You'll be glad to find this in your cellar on those first cool days of September or just for a change of pace during the hot summer days.

Weiss/Weizen: Here's what I propose: brew a batch in May to enjoy on the first day of summer in the third week of June. Hold a picnic or barbecue to unveil your Weizen. Everyone who comes can help celebrate the season by bringing their own "blessing of summer" dish to share with the group: corn on the cob, fresh fruit, etc. (I'm hungry already).

Kölsch: This is a good light-bodied beer for year-round consumption; in fact, our local brewpub keeps it on tap at all times for those who come in requesting a "light" beer. This beer will please your less adventurous friends and serve as a settling treat after a long afternoon in slow traffic or a hot session behind the lawn mower.



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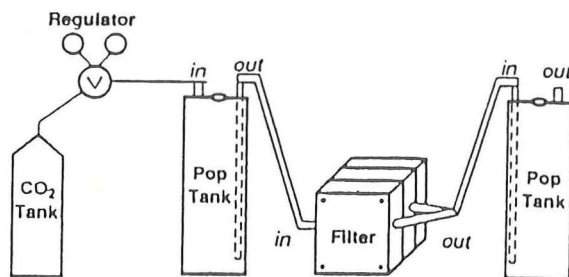
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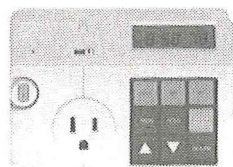
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JUNE

American Lager/American Wheat: If you enjoy a good "lawn mower" beer, don't forget to get it brewing before the hottest part of summer arrives. These lightest of beer styles need your best brewing skills, now honed from a long winter of brewing. Mash 'em up early in June for refreshment in the dog days of summer.

Belgian Ale: Esteriness is a hallmark of these beers, so the higher fermentation temperatures you may see in June might be perfect for this style. Saison is specifically a "harvest" beer that should be brewed in late spring or early summer for consumption in August or early September.

JULY

Robust Porter: A big-bodied porter will go well with those fall chores that are just around the corner. And July is a good time to brew a quick ale for early fall consumption. Look for a cool snap in the weather if temperatures in your area are above 75 degrees F (24 degrees C). Alternately, if your weather is really hot, you can fix up a "cool box" for summer fermentations. Stand a properly sized cooler on end and cut a slot in the top to accommodate the neck of a glass carboy. Toss in a couple of ice packs with the fermenter to keep things nice and cool.

Mead: If you've never experimented with this nectar, July is the time to do it. Mead seems to do fine at slightly higher fermentation temperatures (up to 80 degrees F or 26.5 degrees C) that would spoil many beers. Best of all, it's easy to make—the perfect brewing project for a time of year when you'd rather be outside enjoying the fruits of your craft than toiling over a hot brewpot.

AUGUST

Dunkelweiss: Many forget this malty yet distinctly refreshing style in their brewing plans. I made one a cou-

ple of summers ago that was delicious for early fall quaffing—the perfect beverage for those Indian summer days that slide into a cool evening. Esters that may be produced by warmer summer fermentations fit the style profile.

Fruit Beer: Check fresh fruit prices and selection so you can plan your fruit brews. While many brew fruit beers during the summer when the fruit is plentiful, you can freeze the fruit and brew when the weather is more conducive to brewing. Fruit beers often take time to age and some don't hit their peak for several years. Patience is advised.

Melomel: Use some of that fruit to flavor a batch of fruit mead, which is formally known as melomel. It's hard to go wrong with this one and even a one-gallon batch will be a tasty treat to try out next spring or summer.

SEPTEMBER

Doppelbock: Brew this early in the season to allow for long lagering during winter. A doppelbock brewed in September should be just about perfect for the various bock fests in mid-March.

American-style Pale Ale: I, for one, can't bear the thought of a beer cellar lacking in good American pale ale. When the heat of summer has dissipated and thoughts turn to brewing once again, this style is usually first on my list. If you want a hoppy companion to help you face the cold weather to come, you might boost the gravity and shift the hop schedule to make it an India pale ale.

Cider: The big chore with cider is not the making but the picking. September is the time to scope out the local orchards to see what they have. Pick your apples and let them age for a few weeks until pressing time in October. Cider will be ready to drink in midwinter or spring and can be quite tasty a year later.



OCTOBER

Lambic: Fall is the traditional Belgian brewing season for lambics. They brew this time of year because the environment provides the perfect combination of microorganisms for natural fermentation. If you're looking for an experiment to conduct, you might mix up a batch of wort, expose it to the October night air and see what happens over the next year. Conversely, you could brew a lambic using the bacterial cultures now available at many homebrew stores. Just for sake of tradition you might start the effort in the fall.

Christmas Ale: October gives you one last chance to get a good holiday ale in the works. A bit of gravity is always appropriate for festive occasions, so don't be stingy with the malt. Then get creative: ginger and spice and everything nice—that's what Christmas beers are made of.

Bock: Time to stir up your favorite bock recipe, ferment, then hide it away to lager during the winter. Do not open until March!

NOVEMBER

Russian Imperial Stout: Make it now as a comfort for the cold nights ahead in January or February. With plenty of alcohol and hops this beer should age well and may even make for a special treat the following winter.

California Common Beer: During the long weekend celebrating the most American of holidays (apologies to Canadians, I know you have a Thanksgiving, too!) what better style to brew than California common beer, a.k.a. steam beer.

DECEMBER

Brown Ale: I believe brown ales are an underappreciated style. Within the broad confines of the traditional English and New World versions of this style you can make a lot of different beers

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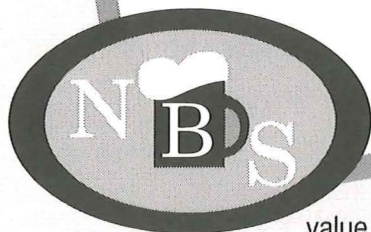
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Sincerely,

Chris Knutsen
Chris Knutsen
New York, N.Y.



At Northeast
Brewers Supply we believe that
value is a combination of price and quality.

That's why we are now direct importers of grain. No middleman
means higher quality at lower prices. We also understand that with
hops and yeasts, freshness counts. We keep all our hops and yeasts
in our cold storage facility and purchase them from suppliers who do
the same. Our selection of supplies and equipment is second to none.
To see why we get letters like this, call for a free catalog, or send us a
letter of your own, N.B.S. 140 Point Judith Road, Suite C 36,
Narragansett RI 02882. Fax: (401) 789-9646

Northeast Brewers Supply

Supplying Homebrewing Equipment, Supplies & Expertise Nationwide

1-800-352-9001

Mon - Thurs
12-9 PM
Fri 12-6 PM
Sat 10-5 PM

with drinkable and distinct characters. I've been putting with some roasted grains called Special Roast and Special B and both can help give the right color for a brown ale while adding a unique dimension to the malt profile. You may want to experiment as the year comes to an end and mix up a brown-colored ale with the hop level of your choice to provide a bit of diversity in your beer cellar during the coming spring.

Schwarzbier: This style may be little known in the United States, but I've been privileged to enjoy a fine example from one of the micros in Milwaukee, a wonderfully smooth but tasty concoction called East Side Dark. I also ran into another example in Houston during the Dixie Cup last fall, an ECU beer called Rubin. A brew in this style goes well with spicy foods like Mexican, Thai or Indian. It also makes for a nice choice on those nights when you are having only one beer and you want a rich, full-bodied taste. It seems only appropriate that you might brew this darkest of lager styles during the darkest month of the year. Come home early and enjoy the darkness some evening while stirring your brewpot with a rich, creamy mid-night brew that will make your mouth water even before you pitch the yeast. ☺

For an index of beer style references, see *zymurgy*, 1991 Special Issue (Vol. 14, No. 4). Other references include *Vienna, Märzen, Oktoberfest* by George and Laurie Fix, *Brewers Publications*, 1992; *Porter* by Terry Foster, *Brewers Publication*, 1992; *Belgian Ale* by Pierre Rajotte, *Brewers Publications*, 1992; *zymurgy* Vol. 14, No. 5 through present.

This article is available in Library 13-AHA/ *zymurgy* / Clubs on CompuServe's Beer and Wine Forum as BRSEAS.S93.

An official Chicago Beer Society "Beer Geek," Ray Daniels has been homebrewing since 1989, collecting honors in both national and regional competitions since 1990. He applies his training in biochemistry to the study and production of lager beers. He is co-holder of the title 1991 Midwest Brewer of the Year.

CELEBRATE

15 YEARS

OF QUALITY

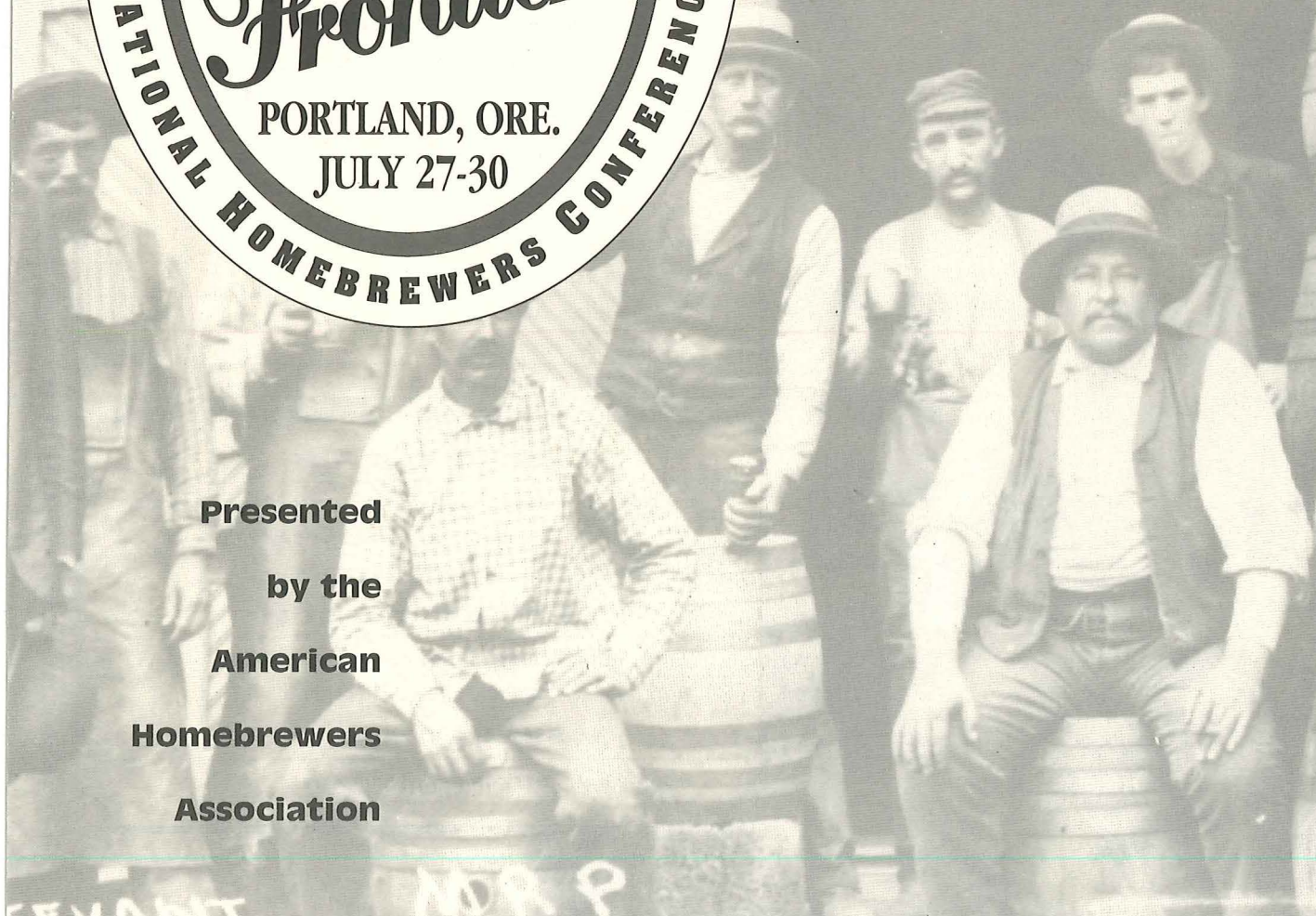
BEER AND

BREWING

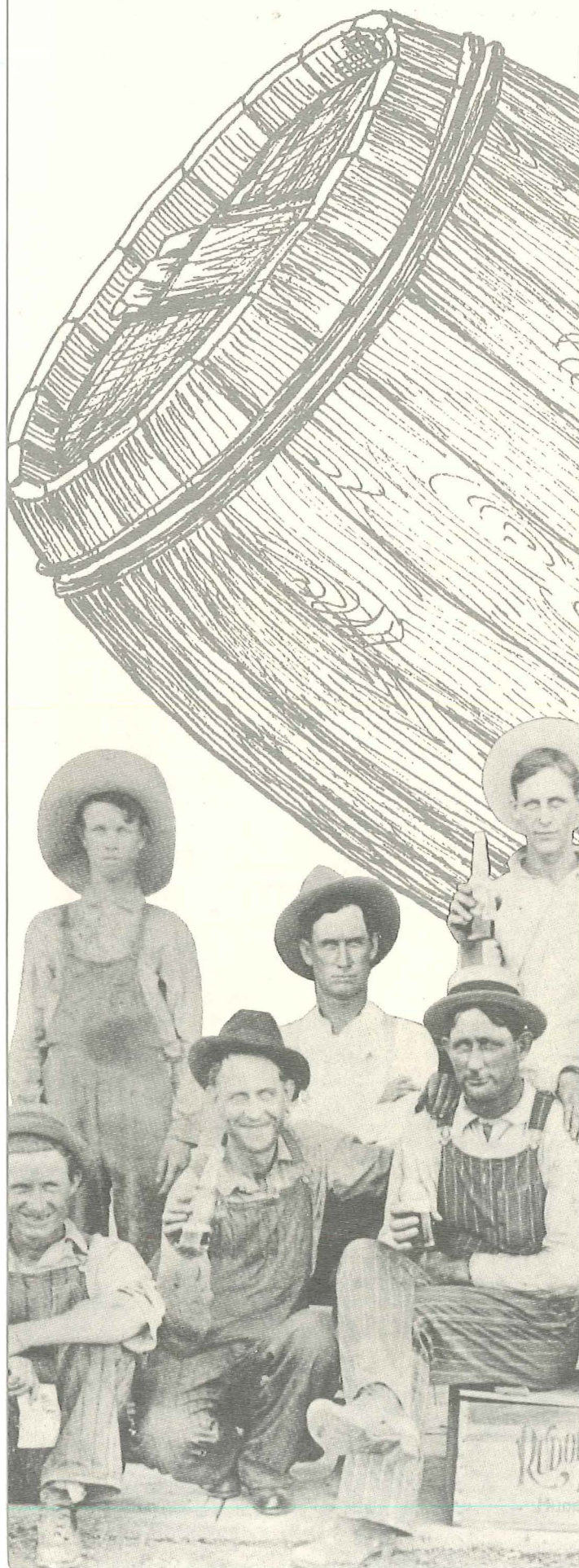
BEER



**Presented
by the
American
Homebrewers
Association**



CALENDAR OF EVENTS



SATURDAY, SUNDAY, MONDAY JULY 24, 25, 26

ADVENTURE SEEKERS PRECONFERENCE TOUR – TWO NIGHTS, 2 1/2 DAYS

TUESDAY, JULY 27

- 9 A.M.-6 P.M. REGISTRATION
- 9-11:30 A.M. AHA BOARD OF ADVISERS MEETING
- 1-2:45 P.M. OREGON ALE TASTING
- 1-2:45 P.M. WATER WORKSHOP
- 3-4:45 P.M. AHA APPRENTICE BEER JUDGE LAB WITH CHARLIE PAPAIZIAN
- 3-6 P.M. NATIONAL HOMEBREW COMPETITION, SECOND-ROUND JUDGING
- 7-11 P.M. JAMBEERY 1 (INCLUDES DINNER)

WEDNESDAY, JULY 28

- 8 A.M.-6 P.M. REGISTRATION
- 9-11:45 A.M. GENERAL SESSION FEATURING: CHARLIE PAPAIZIAN, CHARLES FINKEL, GREG NOONAN, MICHAEL JACKSON
- NOON-2:30 P.M. JAMBEERY 2 (INCLUDES LUNCH)
- 2:45-5:30 P.M. TRAIL BLAZING SEMINARS
- 2:45-3:30 P.M. SESSION 1
- 3:45-4:30 P.M. SESSION 2
- 4:45-5:30 P.M. SESSION 3
- 4:45-6:30 P.M. BEST-OF-SHOW JUDGING
- 5:30 P.M.- FREE TIME — PORTLAND BEER ADVENTURES MAPS FOR VARIOUS BEER ADVENTURES PROVIDED

THURSDAY, JULY 29

- 9 A.M.-5 P.M. REGISTRATION
- 9 A.M.-4:45 P.M. TRAIL BLAZING SEMINARS
- 9-9:45 A.M. SESSION 4
- 10-10:45 A.M. SESSION 5
- 11-11:45 A.M. SESSION 6
- NOON-12:45 P.M. SESSION 7
- 1-3 P.M. LUNCH BREAK
- 3-3:45 P.M. SESSION 8
- 4-4:45 P.M. SESSION 9
- 7-9 P.M. VITTLES, VICTORIES AND BEER: THE FINAL FRONTIER

FRIDAY, JULY 30

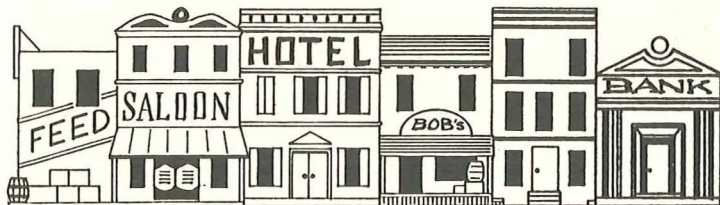
- 10 A.M.-1 P.M. BEER JUDGE CERTIFICATION PROGRAM EXAM
- 1-5 P.M. SIEBEL SHORT COURSE IN BREWING
- 4-8 P.M. OREGON BREWERS FESTIVAL

SATURDAY, JULY 31

- 8 A.M.-NOON SIEBEL SHORT COURSE IN BREWING
- NOON-9 P.M. OREGON BREWERS FESTIVAL

SUNDAY, AUGUST 1

- NOON-8 P.M. OREGON BREWERS FESTIVAL



Let's Have Some Fun!

Happy Anniversary American Homebrewers Association and National Homebrewers Conference. Brewing Frontiers, the 1993 National Conference, marks the 15th time homebrewers have gathered to exchange ideas, share beer and meet others who enjoy our hobby. It's fitting that the theme, Brewing Frontiers, is about new fields of brewing. Webster's Dictionary defines frontier as any part of a field that is still incompletely investigated. Brewing may have begun in Mesopotamia many years ago, but we are still exploring the art and discovering ways to make new brews. This Conference provides the atmosphere, setting and especially the people to allow you to investigate the mysteries surrounding one of life's greatest pleasures — a glass of homebrew.



because of his regular contributions to *zymurgy*, through his video, "The Beer Hunter," and as author of *The New World Guide to Beer*, *Simon and Schuster Pocket Guide to Beer* and *The Great Beers of Belgium*. You'll have the opportunity to meet Michael, get his autograph and hear his stories. (Michael Jackson's visit is sponsored by JV Northwest, Wilsonville, Ore.)

A Grand Stand View of the Industry CHARLES FINKEL, SEATTLE, WASH.

Charles Finkel holds a unique position in the beer and brewing business. He is owner and president of Pike Place Brewery, the Merchant du Vin Corp. (distributors of world-class Authentic beers) and Liberty Malt Supply Co. all in Seattle, Wash. Charles will share his experiences with these three original and harmonious companies and examine various components of the beer industry. His efforts in the world of beer have brought him many rewards, including a local favorite, the "Golden Bung" award given by the Oregon Brew Crew.

Special Guests

KEYNOTE ADDRESS

Beer Styles

**Yesterday and Today:
Surviving the Test of Time**
GREG NOONAN,
BURLINGTON, VT.

Greg is fascinated with styles, history and flavor profiles of the world's classic beers. His keynote address will focus on how styles are defined and have evolved from their historical roots. A homebrewer turned professional, Greg is brewmaster at the Vermont Pub and Brewery in Burlington, Vt., and author of *Scotch Ale* and *Brewing Lager Beer* both published by Brewers Publications.

The Beer Hunter Returns
MICHAEL JACKSON,
LONDON, ENGLAND

Michael, with an international reputation as a food and beer writer, joins us as a favorite guest. He is well known to homebrewers

**Adventures in
Chicha and Chang:
Indigenous Beers
of the East and West**
WENDY AARONSON
AND BILL RIDGELY,
ROCKFORD, MD.

Join Bill and Wendy and explore the historical, social and mystical development of two historic beers. Chicha, the corn beer of the South American Andes, and chang, the rice beer of the Himalayas, will be discussed in detail along with techniques for homebrewing the ancient beverages. Wendy, a homebrewer and microbiologist, is interested in Tibetan yeast cultures for commercial chang production. Bill is a 13-year veteran homebrewer who has traveled in Asia and Latin America in search of indigenous beers. His article on Himalayan brewing appeared in *World Beer Review*.

**Skin Deep:
The Role of Yeast
Membrane Lipids in
Ethanol Tolerance**
TONY FISCHL, Ph.D.,
WEST KINGSTON, R.I.

Tony will present a detailed overview of the metabolism of yeast membrane phospholipids and the role they play in ethanol tolerance to yeast cells. He will discuss strategies for preparing yeast starters for high-gravity brewing. A homebrewer for five years, Tony is a member of the Rhode Island Bloviates homebrew club. He is studying lipid chemistry of the *Saccharomyces cerevisiae* yeast strain, commonly used in brewing beer, at his laboratory of Food Science and Nutrition at the University of Rhode Island.

**Smooth Sailing into
Consistent Brewing**
JOHN HARRIS,
PORTLAND, ORE.

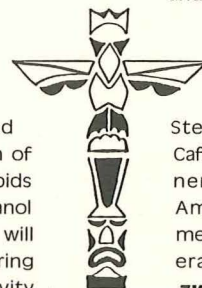
Drawing on his experience as a Great American Beer Festival medal-winning brewmaster for Deschutes Brewing Co. and Portland's Full Sail Brewing Co., John will focus on using good record-keeping methods and your five senses to brew with consistent results. If you have a special recipe, or a house beer you'd like to keep on hand, use this seminar to gain insight into consistent brewing.

**Beer's Hop
Secret Ingredient**
ALFRED HAUNOLD, Ph.D.,
U.S. DEPARTMENT
OF AGRICULTURE,
CORVALLIS, ORE.

Al is an internationally educated expert on hop genetics and hop breeding. As a member of a hop research team for the U.S. Department of Agriculture, he contributed to the release of eight new varieties and 31 germplasm lines since the early 1970s. He'll provide insight into the qualities and varieties of a multitude of hops. If you have hop questions, Al has hop answers.

**Everyone Needs
a Dream: Turning Pro
in the Beer Business**
TERI FAHRENDORF,
EUGENE, ORE.

Teri began her brewing career at Siebens River North Brewpub in Chicago, Ill., as an unpaid intern and continued as the brewer at Triple Rock Brewing in Berkeley, Calif. Today she is brewmaster at Steelhead Brewery and Cafe in Eugene, Ore., winner of several Great American Beer Festival medals and author of several technical articles in *zymurgy*. Teri's seminar will focus on what it takes to go pro in the brewing industry as well as the crucial role your homebrewing hobby can play in the pursuit of the brewmaster title.



**Amazing Beer Gear
and How To Use It**
MICAH MILLSPAW
AND BOB JONES,
ALAMO, CALIF.

Micah and Bob will explore state-of-the-art homebrewing equipment. If you are an intermediate or advanced homebrewer looking for ways to fine tune your homebrewing, let Micah and Bob show you design concepts for equipment such as mechanized mashing systems, pumps and super-efficient wort-handling systems.

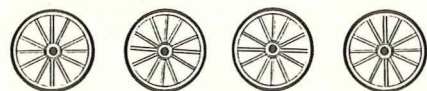
**Home Sweet Home:
Food and Shelter for your
Brewing Yeast**
JOE POWER, Ph.D.,
AND DAVE RADZANOWSKI,
SIEBEL INSTITUTE OF
TECHNOLOGY,
CHICAGO, ILL.

How much and what types of food does beer yeast need? What hap-

Trail Blazing Seminars

Continuing our two-year tradition of rotating seminars, this schedule allows you to customize the conference to fit your specific brewing interests by choosing nine of the 12 presentations. The 45-minute sessions offer interaction between you and the speakers. You don't have to choose now, we'll provide an outline of each seminar so you can review the presentations before making your final choices.





MARRIOTT HOTEL REGISTRATION

REQUEST FOR HOTEL RESERVATION

(Check-in time is 4:00 p.m.)

BE WHERE ALL THE ACTION IS!

Name(s) _____

Address _____

City _____ State/Province _____ Zip _____

Phones (Home) _____ (Office) _____

Date and time of arrival _____ Date of Departure _____

Guaranteed by ☐ Check ☐ Credit Card Card type _____

Card No. _____ Exp. Date _____

Rooms will be confirmed only upon receipt of one night's deposit or a credit card number. Submission of an invalid credit card number or failure to submit a deposit will result in cancellation of the reservation.

The following discounted room rates have been secured for our Conference only. You must mention the AHA in order to receive these rates. Please indicate desired accommodation per night:

SINGLE/DOUBLE \$90
(PLUS TAX)

TRIPLE/QUAD \$109
(PLUS TAX)

All prices subject to state and local sales tax.

Important Notice: A block of rooms has been set aside for the AHA National Conference. These rooms are being assigned on a first-come, first-served basis. However, any rooms remaining unassigned as of July 5, 1993, will be sold to the general public. Rack rates will be quoted after this date and rooms are subject to availability. It is important to make your reservation as soon as possible.

For reservations, call the hotel directly or mail this form to the hotel.

**American Homebrewers Association
Brewing Frontiers Conference
Portland Marriott Hotel
1401 S.W. Front Ave.
Portland, OR 97201
Phone (503) 226-7600
FAX (503) 226-1209**

Enjoy this
first-class hotel
conveniently
located on the
waterfront in
the heart of
downtown
Portland.

Please
register
directly
with the
Portland
Marriott
Hotel.

pens when other ingredients besides malt are used? How does the shape of the fermentation vessel affect beer? With experience gained from more than 50 combined years of brewing experience, Joe and Dave will show how optimal fermentation conditions can be achieved, and how the fermentation environment affects yeast and beer quality. Joe is technical vice president of the Siebel Institute, where he has worked since 1977. Dave has been vice president of educational services at Siebel since 1992.

American Treasures: Good Beer, Good Food CANDY SCHERMERHORN, PEORIA, ARIZ.

Candy's cooking-with-beer seminars have become traditional at the Conferences. With the wide range of beer styles available to homebrewers, cooking with your brew makes good sense. Incorporating beer permits you to broaden your understanding of food and beer combinations. Join Candy as she takes you on a gastronomical adventure. A long-time contributor to *zymurgy*, Candy is author of a cookbook to be published by Brewers Publications this year.

For the Sake of Saké: Saké Essentials FRED ECKHARDT, PORTLAND, ORE.

Rice beer, the traditional fermented beverage of the Far East, is gaining popularity in the United States. Fred provides a complete look at the history, traditions and technical aspects of saké brewing as well as a guide to choosing and enjoying this unique beverage. Author of three brewing books including the revolutionary *The Essentials of Beer Style*, Fred recently published *Saké (U.S.A.)*, a thorough look at rice beer brewing in the United States.

Altbier and Kölsch: How to Brew Two Unique Ales FRANK COMMANDY, PORTLAND, ORE.

Frank, a masterbrewer at Widmer Brewing Co. in Portland, Ore., has been brewing beer for more than seven years. He has a graduate degree in microbiology from the University of California-Davis. His special interests are quality control and general brewing technology. Frank will explore the traditions of German-style ales — altbier and Kölsch — two classic and elusive continental beer styles.

The Renaissance Brewer: A Celebration of Brewing Gadgets You can Build RANDY MOSHER, CHICAGO, ILL.

Some homebrewers are obsessed with gadgets. If you are, Randy will take you on a tour of simple devices, most of which you can build, that can improve your efficiency and make your beer taste better than ever. A graphic designer and product developer, Randy's contributions to the brewing world include *The Brewer's Companion*, soon to be published by Alephenalia, Doctor Bob Technical's Amazing Wheel of Beer and articles in *zymurgy*.

Mastering Kit Brews: How to Brew your Best from Kits KURT DENKE, SEATTLE, WASH.

Kurt's expertise will help you become a brewing adventurer. He has been tinkering with homebrew kits for years and will share his techniques for customizing any brew kit to fit your brewing skills.

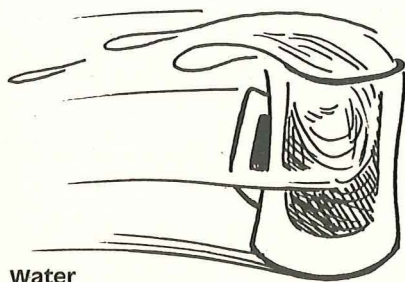
Beer kits can produce excellent beers and Kurt will show you proven ways to make kits work magic for you. Kurt has more than 10 years brewing experience, including writing the "Best from Kits" column for *zymurgy*. He owned Home Sweet Homebrew, a retail shop in Philadelphia, before he moved to Seattle, Wash.



Conference Events

An Ale Lover's Dream Come True — Oregon Ale Tasting

We've got our hands on some of Oregon's finest ales and can't wait to share them with you. Join us for a rare, stand-up tasting of each one. Find out why Oregon is one of the top three states in micro- and pubbrewed beer production. Taste for yourself why Portland and surrounding cities have one of the largest shares of the micro- and pubbrewery market of any state in the country. Explore the taste of the state. (Optional — Limited attendance, see the calendar and registration form for details.)



Water Workshop Greg Noonan, BURLINGTON, VT.

Ahhh, cool, refreshing water. When it comes to your beer, water is not an abstract notion — it may well be your most important homebrew ingredient. Greg Noonan, our Brewing Frontiers Keynote Speaker, will be conducting this valuable and informative workshop. He'll help you find out exactly what your brewing water contains by taking you step-by-step through the water testing and analyzing process. Bring a sample of your brewing water to the workshop and test it with kits during this hands-on workshop. Greg will help you determine the quality of your water and offer advice on adjusting it to brew various beer styles. (Optional — see the calendar and registration form for details.)

AHA Apprentice Beer Judge Lab: Palate Practice

Back by popular demand! This lab sold out in 1991 and 1992 so be sure to register early. Designed to take the mystery out of evaluating beer, this lab will show you how to use the AHA beer score sheet as well as help you identify, describe and evaluate the appearance, flavor, body and aroma of beers. Taste, sample and practice scoring several beers with Charlie Papazian, founder and president of the AHA and author of *The New Complete Joy of Home Brewing*. (Optional

— Limited attendance, see the calendar and registration form for details.)



National Homebrew Competition Second- Round Judging

The world's largest homebrew competition is celebrating its 15th year of providing quality feedback and constructive analyses of homebrews. Much has changed over 15 years, but one thing has remained constant — the beer is great! No place else are more than 300 of the best homebrews, made by the best homebrewers, all in the same room. Qualified judges and stewards will be chosen to help taste and score the entries in 26 categories. First, second and third places will be chosen. Anyone interested in judging or stewarding should call the AHA for details.

Jambeery

It's not a session on how to use jam in beer, but it's akin to a jam session. It's an improvisation, a casual gathering, it's fun, fun, fun! The Jambeery is a combination beer expo and beer tasting. It's the place for brewers to mingle, mash and merge. We've invited exhibitors — homebrew retailers and suppliers, vendors, technical advisers, hop suppliers and clubs to display, sell, demonstrate and share their brewing gadgets, ingredients, programs and supplies. To double your pleasure, the Jambeery will be held on two consecutive days. The Jambeery is included with the full registration but admission tickets are available with partial registration. For information on how you can participate, contact Karen Barela at PO Box 1679, Boulder, CO 80306-1679, (303) 447-0816; FAX (303) 447-2825.

National Homebrew Competition Best-of-Show Judging

Who best to discuss the merits of the top 26 beers than four of the most qualified beer judges in the country. Learn about the flavor characteristics of the categories as the judges provide insight into the unique qualities of each. Watch, listen and learn as the judges struggle to narrow the field to one superbly brewed beer.



Vittles, Victories and Beer: The Final Frontier

It's a scrumptious feast, a tasty grand finale designed to delight your palate. Each entree is prepared with beer as an ingredient or accompaniment. The National Homebrew Competition awards will be announced after the banquet. First-, second- and third-place winners in each of the 28 categories will receive their awards. The Homebrewer, Meadmaker, Cidermaker, Sakemaker of the Year, Ninkasi Award Winner and Club High Point Trophy winners will be named. The event and announcements will be simultaneously broadcast on the CompuServe computer network. AHA President, Charlie Papazian, will be master of ceremonies. It's an exciting evening full of surprises.

National Beer Judge Certification Program Exam

If you are a homebrewer or beer connoisseur who has a thorough understanding of the brewing process, the flavor components in beer and the historical development of different world beer styles, you can become a BJCP judge. Over the past years homebrewers who have learned their craft well are in demand as qualified judges at competitions. Prove your expertise and be recognized. Founded in 1985, the judge program has more than 900 active beer enthusiasts. The comprehensive three-hour exam requires extensive study. For details on how to prepare, contact James Spence, BJCP Administrator, at the AHA. (Optional — Limited attendance, see the calendar and registration form for details.)

Extras

CompuServe Wine and Beer Forum

Back by popular demand, we will again provide periodic telecommunication via CompuServe computer network of the Conference events as they happen. The idea is to communicate between those attending and CompuServe subscribers who



are unable to attend. The essence of Conference events will be sent to network subscribers to provide news on what's happening in Portland as it happens. Be in Portland, or be on-line.

Oregon Brewers Festival

Fifty participating breweries, 35,000 people, fun, sun and delicious microbrewed beers will be at Waterfront Park (across the street from the Marriott Hotel) for the fifth annual Oregon Brewers Festival. The OBF offers all draft beers in a beautiful setting overlooking the Willamette River. The atmosphere is relaxed, the beers are the best and we've timed things to make it easy for you to attend. You've heard of it, you've wanted to go — now is the time. (Sponsored by the Oregon Brewers Festival, see the calendar for details. Admission is free.)

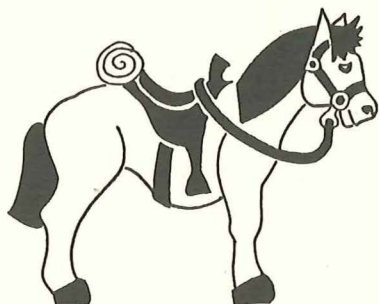
Siebel Short Course in Brewing

The Siebel Institute of Technology is offering three seminars to follow our Conference. These seminars, led by Joe Power, Ph.D., and Dave Radzanowski, are designed for advanced homebrewers and professional brewers. Each seminar — Sanitation and Quality Control, Handling Pure Yeast Cultures and Taste of Beer — provides plenty of technical information, demonstrations and hands-on practice. For details, call Siebel at (312) 463-3400. (Optional — Sponsored by the Siebel Institute of Technology, see the calendar and registration form for details.)

Airline Information

The AHA is proud to offer the services of Via Travel of Boulder, Colo. Via Travel will guarantee the lowest fares in every market. Coupon discounts on certain airlines are available in some markets. For details and information call Debby or Dick at 1.(800) 524-7169 8 a.m. to 5:30 p.m. MST. You must mention the AHA Conference to receive the discount.

Preconference Tour ADVENTURE SEEKERS



REGISTER BY MAY 31, 1993, AND SAVE \$50.

We must make our tour commitments early to guarantee hotel and tour arrangements. Space is limited to 30 people plus tour leaders and is available on a first-come, first-served basis. Early discount is available for reservations postmarked on or before May 31, 1993. Reservations must be made with full remittance. Tour price is based on a minimum of 20 people. Prices subject to change if minimum is not met. Reservations will be accepted after May 31, 1993, on a space-available basis.

TOUR REGISTRATION

Name _____
 Address _____
 City _____ State _____ Zip _____
 Phone Day _____ Evening _____
 Accommodations: Single _____ Double _____ Number of Beds _____

TOUR PRICE

	EARLY DISCOUNT (BY MAY 31, 1992)	PRICE	# OF PEOPLE	TOTAL
AHA members	\$750	\$800	_____ =	_____
Non members	\$775	\$825	_____ =	_____
Single occupancy	add \$50		_____ =	_____
(Rates based on double occupancy)			GRAND TOTAL	_____

METHOD OF PAYMENT

Check _____ MC _____ Visa _____ Print Name _____
 Card Number _____ Exp date _____ Signature _____

Make checks payable to the American Homebrewers Association, PO Box 1679, Boulder, CO 80306-1679. Or call (303) 447-0816; FAX (303) 447-2825 with your credit card information.



PRECONFERENCE TOUR

Saturday, July 24, through Monday, July 26

Enjoy a specially arranged tour with fun and educational festivities plus the camaraderie of fellow brewers while we cruise for brews! Professional and amateur brewers are invited to explore brewing hot spots in Seattle, Yakima and other places on the way to Portland. The 2 1/2-day and two-night brew cruise will feature stops at several Great American Beer Festival award-winning breweries and the beautiful, spectacular hop farms (near the peak of their harvest!) in the Yakima Valley. Live the beer adventure for 2 1/2 days. Anyone interested should call for details and itinerary right away. Space is limited to 30 people.

Included in the Tour

TRANSPORTATION

A deluxe, air-conditioned motor coach with facilities. From Seattle, Wash., to all stops along the way, including breweries, restaurants and hotels. The tour will conclude at the Portland Marriott Hotel in downtown Portland, Ore. All taxes are included.

HOTELS

Saturday, July 24, Claremont Hotel, Seattle, Wash.
 Sunday, July 25, Cavanaugh's Hotel, Yakima, Wash.
 Price includes room and taxes at selected hotels.

MEALS

Saturday, July 24, lunch, dinner, selected beers.
 Sunday, July 25, lunch, dinner, selected beers.
 Monday, July 26, lunch, selected beers.



REFUND POLICY

A \$75 cancellation fee will be assessed if cancellations are made on or before May 31, 1993. Cancellations received between June 1 and July 2 will be assessed a \$250 cancellation charge unless someone fills your space on the tour, in which case there will be a \$75 cancellation charge. After July 2, 1993, there is no refund for cancellation unless someone fills your reservation, in which case there will be a \$75 handling fee.

NOTE:

Accommodations at the Portland Marriott Hotel are not included. Please make your own reservations for Monday night and the duration of your Conference stay directly with the hotel. See hotel registration elsewhere in this brochure.

REGISTRATION INFORMATION

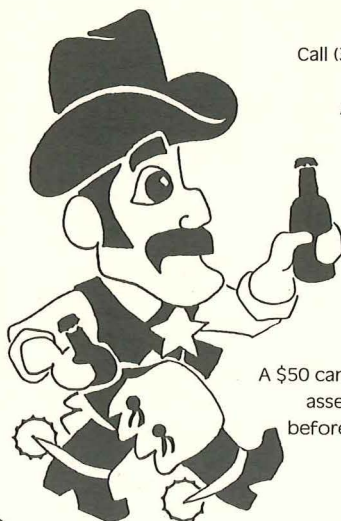


**Register
before
May 31
and save
\$40!**

PERSONAL INFORMATION

Please photocopy and send this form for each person attending.
Type or print legibly so your name tag will be correct.

Name(s) _____
 Nickname (for name tag) _____
 Club/Company _____
 Address _____
 City _____ State/Province _____ Zip _____
 Phone (Home) (____) _____ (Office) (____) _____
 Date of arrival _____ Date of Departure _____
 Guaranteed by ☐ Check ☐ Credit Card Card type _____
 Card No. _____ Exp. Date _____
 Signature _____



TO REGISTER

Call (303) 447-0816 or FAX (303) 447-2825
 or mail this form and payment to
 AHA Conference, Box 1679, Boulder,
 CO 80306-1679, USA.

FOREIGN MEMBERSHIP

Conference price
 before May 31 = \$270,
 after May 31 = \$310
 (all funds U.S. dollars)

CANCELLATION

A \$50 cancellation fee for each person will be
 assessed if cancellations are made on or
 before July 5. There will be no refunds for
 cancellations made after July 5.

CONFERENCE REGISTRATION

	BEFORE MAY 31	AFTER MAY 31	TOTAL
AHA MEMBER FULL CONFERENCE (includes all events from Tuesday, July 27, 7 p.m. through Thursday July 29, 9 p.m.)	\$240	\$280	
NEW MEMBER FULL CONFERENCE (includes one-year membership benefits in AHA including subscription to <i>zymurgy</i> .)	\$265	\$305	
NON-MEMBER FULL CONFERENCE	\$290	\$330	
PARTIAL REGISTRATION (Includes all meals and social functions Tuesday, July 27, 7 p.m. through Thursday, July 29, 9 p.m., does not include Trail Blazing Seminars.)	\$135	\$175	

**ONE DAY PASS
WEDNESDAY, JULY 28** **INQUIRE**
 (Includes all events listed for July 28 – refer to
 the Conference Calendar for event details.)

**ONE DAY PASS
THURSDAY, JULY 29** **INQUIRE**
 (Includes all events listed for July 29 – refer to
 the Conference Calendar for event details.)

SPECIAL EVENTS AND OFFERS

The following events are included in full conference registration and partial registra-
 tion. Persons unable to attend the full conference may wish to attend these events.

VITTLES, VICTORIES AND BEER: THE FINAL FRONTIER Thursday, July 29, 7 to 9 p.m.	\$35	
JAMBEERY 1 Tuesday, July 27, 7 to 11 p.m.	\$35	
JAMBEERY 2 Wednesday, July 28, noon to 2:30 p.m.	\$35	

MORE SPECIAL EVENTS AND OFFERS

The following events and options are not included in the Full Conference price.
 Seating is limited. Registration will close when filled.

OREGON ALE TASTING Tuesday, July 27, 1 to 2:45 p.m.	\$15	
WATER WORKSHOP Tuesday, July 27, 1 to 2:45 p.m.	\$10	
AHA APPRENTICE BEER JUDGE LAB Tuesday, July 27, 3 to 4:45 p.m.	\$10	
NATIONAL BEER JUDGE CERTIFICATION EXAM Friday, July 30, 10 a.m. to 1 p.m.	\$40 RETAKES \$30	
SIEBEL INSTITUTE SHORT COURSE IN BREWING Friday, July 29, 1 to 5 p.m. Saturday, July 30, 8 a.m. to noon Sunday, August 1, 8 a.m. to noon	\$75 \$75 \$75	
Indicate number of sessions _____ X \$75		
BREWING FRONTIERS COMMEMORATIVE T-SHIRT, LIMITED EDITION M____ L____ XL____ Indicate size and quantity	\$15	
GRAND TOTAL		

STYLE GUIDELINES

American Homebrewers Association 1993 National Homebrew Competition

ELIGIBILITY

Eligibility

The competition is open to all—either AHA members or non-members. Contestants will be considered an individual entrant based on the name appearing on the registration form. Judges may not judge a category they have entered. Applicable entry fees and limitations shall apply.

Entry Limitations

Contestants may not submit more than one entry in any one beer, mead, cider or saké subcategory.

Entrants' Responsibilities

It is the sole responsibility of the entrant to complete all registration and recipe forms, enclose the proper entry fee and designate the category and subcategory in which they wish their entry to be judged. Under no circumstances will registrars, judges or directors categorize entries.

ENTRY DEADLINES

First Round

All first-round entries must be received at the appropriate site BETWEEN Thursday, May 13, 1993, and 5 p.m., Friday, May 21, 1993. **No late entries will be accepted under any circumstances.**

Second Round

Entries competing in the second round must be received BETWEEN Wednesday, July 14, 1993, and 5 p.m., Wednesday, July 21, 1993. **No late entries will be accepted under any circumstances.**

MORE INFORMATION

Good Luck in the 1993 National Homebrew Competition. Please follow all instructions carefully. This is a condensed version of the 1993 Rules and Regulations. Complete details of the 1993 Rules and Regulations, **including the entry form and instructions on where to send your entries**, are available in the Winter 1992 issue of *zymurgy* (Vol. 15, No. 5). The 12 page brochure is available upon request but must be accompanied by a self-addressed stamped (52 cents) 6" by 9" envelope. If you have any questions, please contact Karen or James at the AHA, PO Box 1679, Boulder, CO 80306; (303) 447-0816, FAX (303) 447-2825.

ENTRY REQUIREMENTS

Entry Fees

AHA Members **\$8 per entry**

Non-members **\$10 per entry**

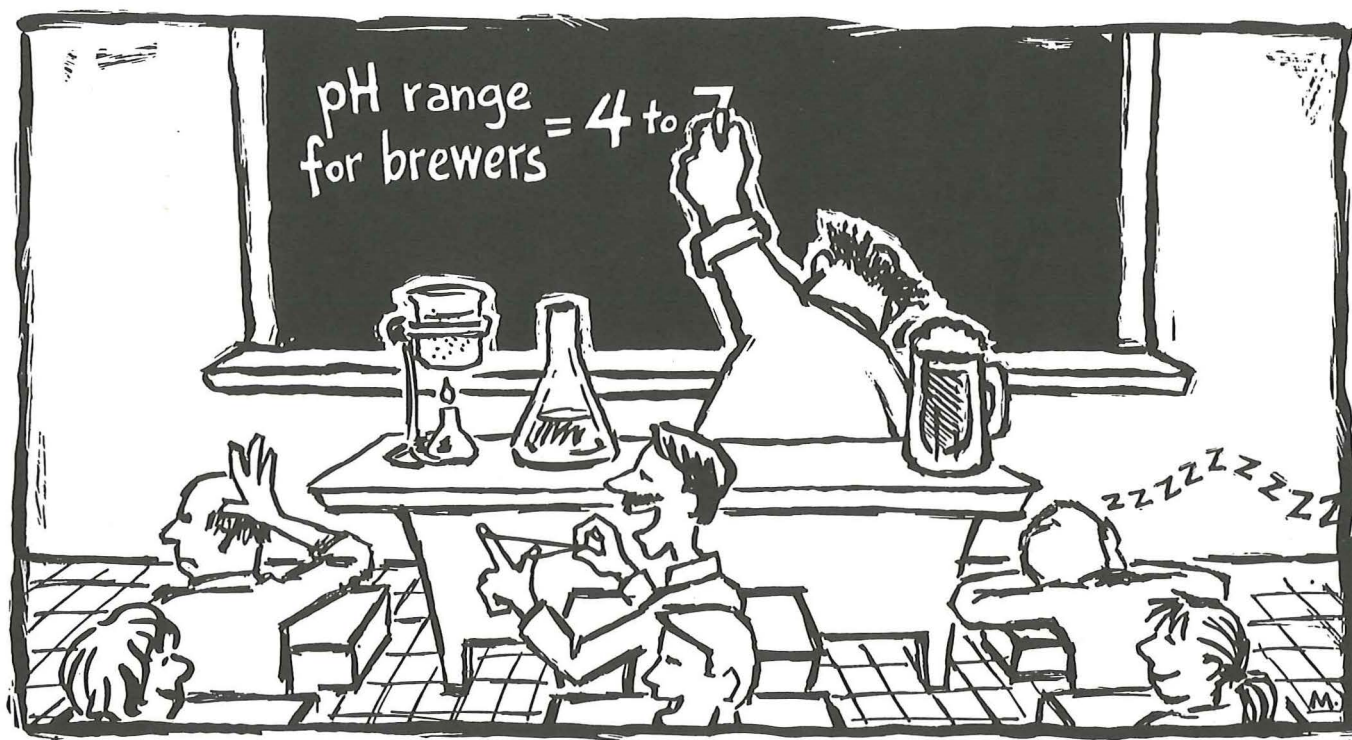
Bottle Entry Requirements

For the first round, beer and mead competitors must enter one bottle for each subcategory entered. Cider and saké require three bottles for each subcategory entered. Bottles must be 10- to 14-ounce green or brown glass clean and free of any labels (inked, paper or otherwise). Bottles with raised glass brand-name lettering or any other identifying or distinctive marks will be disqualified. Clear glass bottles will be disqualified. Bottles with Grölsch-type wire swing tops will be disqualified. Contestants are advised to refrigerate potential second-round entries to minimize changes in character.

CATEGORY		SUBCATEGORIES
ALE		
1	BARLEY WINE	a) Barley Wine
2	BELGIAN-STYLE SPECIALTY	a) Flanders Brown b) Dubbel c) Tripel d) Belgian Ale e) Belgian Strong Ale f) Lambic-style: Faro Gueuze Fruit (Framboise, Kriek, Peche) g) White
3	BROWN ALE	a) English Brown b) English Mild c) American Brown
4	ENGLISH STYLE PALE ALE	a) Classic English Pale Ale b) India Pale Ale
5	AMERICAN STYLE ALE	a) American Pale Ale b) American Wheat
6	ENGLISH BITTER	a) English Ordinary b) English Special c) English Extra Special
7	SCOTTISH ALE	a) Scottish Light b) Scottish Heavy c) Scottish Export
8	PORTER	a) Robust Porter b) Brown Porter
9	ENGLISH AND SCOTTISH STRONG ALE	a) English Old Ale/Strong Ale b) Strong "Scotch" Ale
10	STOUT	a) Classic Dry Stout b) Foreign-style c) Sweet Stout d) Imperial Stout
LAGER		
11	BOCK	a) Traditional German Bock b) Helles (light) Bock c) Doppelbock d) Eisbock
12	BAVARIAN DARK	a) Munich Dunkel b) Schwarzbier
13	DORTMUND/EXPORT	a) Dortmund/Export
14	MUNICH HELLES	a) Munich Helles
15	CLASSIC PILSENER	a) German b) Bohemian
16	AMERICAN LAGER	a) Diet/Lite b) American Standard c) American Premium d) Dry e) Cream Ale/Lager f) American Dark
17	VIENNA/OKTOBERFEST/MÄRZEN	a) Vienna b) Märzen/Oktoberfest
MIXED STYLE (LAGER-ALE)		
18	GERMAN-STYLE ALE	a) Düsseldorf-style Altbier b) Kölsch
19	FRUIT BEER	a) Fruit Beer b) Classic-style Fruit Beer
20	HERB BEER	a) Herb Beer b) Classic-style Herb Beer
21	SPECIALTY BEER	a) Specialty Beer b) Classic-style Specialty Beer
22	SMOKED BEER	a) Bamberg-style Rauchbier b) Other (Specify classic style or other styles smoke added to.)
23	CALIFORNIA COMMON BEER	a) California Common Beer
24	WHEAT BEER (ALE)	a) Berliner Weisse b) German-style Weizen/Weissbier c) German-style Dunkelweizen (dark) d) German-style Weizenbock
25	TRADITIONAL MEAD	a) Sparkling b) Still
26	MELOMEL, CYSER, PYMENT, METHEGLIN	a) Sparkling b) Still
27	CIDER	a) Still b) Sparkling c) New England-style d) Specialty Cider
28	SAKÉ	a) Saké (Japanese rice beer) b) Sparkling Saké c) Other Oriental Rice Beers

pH *and the* Brewing Process

By Eric Warner



The pH of brewing water, mash, wort and beer is one of the most indicative parameters any brewer can use to monitor the progress of the brewing process, and to determine the quality of the raw materials. Measuring the pH throughout the life of a brew can lend insight into what may have gone wrong if the brew doesn't taste right. Best of all, measuring pH can be done very simply and at minimal expense.

Before going further, it would be wise to revisit the good ol' high school chemistry lecture. I know all of you were paying close attention to your teachers, but just as a refresher, pH is a measure of the acidity of a solution. Specifically, it is a measure of the hydrogen ion concentration of a solution. Pure water dissociates into hydrogen (H^+) and hydroxyl (OH^-) ions. pH is actually an expression of $\log_{10} 1/(H^+)$, where (H^+) represents the concentration of hydrogen ions. Since the concentration of hydrogen ions in pure water is 10^{-7} mole/dm³, the pH of pure water is 7. Solutions that have a greater

concentration of hydrogen ions than this are acidic, and have a pH that is less than 7. Conversely, solutions having more dilute concentration of hydrogen ions are basic and have a pH that is greater than 7. The range of the pH scale is 1 to 14.

Brewers are interested primarily in the pH range of 4 to 7, but the brew should have a very specific pH at each step of the brewing process. Because beer is about 90 percent water, it probably makes sense to look first at the ideal pH of brewing water. A normal municipal water supply should yield a water that has a pH of about 7. To the brewer, the pH of a given water is not nearly as critical as the spectrum of ions within that water. Certain ions have an effect on the acidity of the mash, in par-

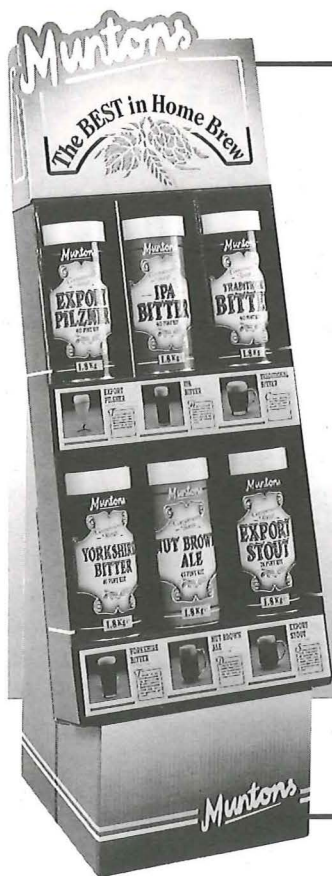
So what is the ideal mash pH? Ideal is often difficult to achieve in small-scale brewing, but if the mash pH is between 5.4 and 5.5 you are in good shape.

ticular the hydrogen carbonates and the alkaline earth metals, calcium and magnesium. Malt reacts acidic in the mash and these ions affect the overall acidity of the mash. The carbonates increase the pH of the mash and the alkaline earth metals decrease it, so the ratio of these ions is important.

This all ties into what is called the hardness of the water. Water hardness is defined by the content of alkaline

earth metals, calcium, magnesium, strontium and barium. Because the latter two are rarely present in significant amounts, hardness mainly refers to the concentration of calcium and magnesium in a certain water supply. Carbonate hardness, or what was once referred to as temporary hardness, corresponds to the

portion of alkaline earth metals that is equivalent to the hydrogen carbonates of water. Hardness is usually greater than carbonate hardness, and the difference is called non-carbonate hardness. What a brewer is ultimately looking for is a ratio of non-carbonate to carbonate hardness that will result in an optimal mash pH. If this ratio is not ideal, then modern brewers will seek to *increase* this ratio by either reducing the hydro-



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gen carbonates, increasing the calcium ion concentration by using calcium salts or by employing some combination of the two.

The brewing water isn't the only raw material that will affect the mash pH. The malt selection for a given brew can also greatly influence the mash pH. In general, darker malts will reduce the mash pH because the high level of melanoids developed during the higher temperature kilning of a darker malt react very acidic. On the other hand, malts from heavily fertilized barley crops will increase the pH of the mash. The ongoing overfertilization of agricultural soils has the effect of increasing the pH of the soil, which in turn decreases the acidity of the barley and ultimately the malt.

So what is the ideal mash pH? Ideal is often difficult to achieve in small-scale brewing, but if the mash pH is between 5.4 and 5.5 you are in good shape. This range is ideal for the spectrum of enzymatic reactions that take

place in the mash. The amylases have pH optima that are just above the ideal mash pH (alpha amylase, 5.6 to 5.8; beta amylase, 5.4 to 5.6), and the key peptidases have pH optima of around 5.0 to 5.2. It is rare for a mash to have a pH below 5.3, but it is conceivable for the mash pH to be well above 5.5. Mash pH higher than 5.5 will cause:

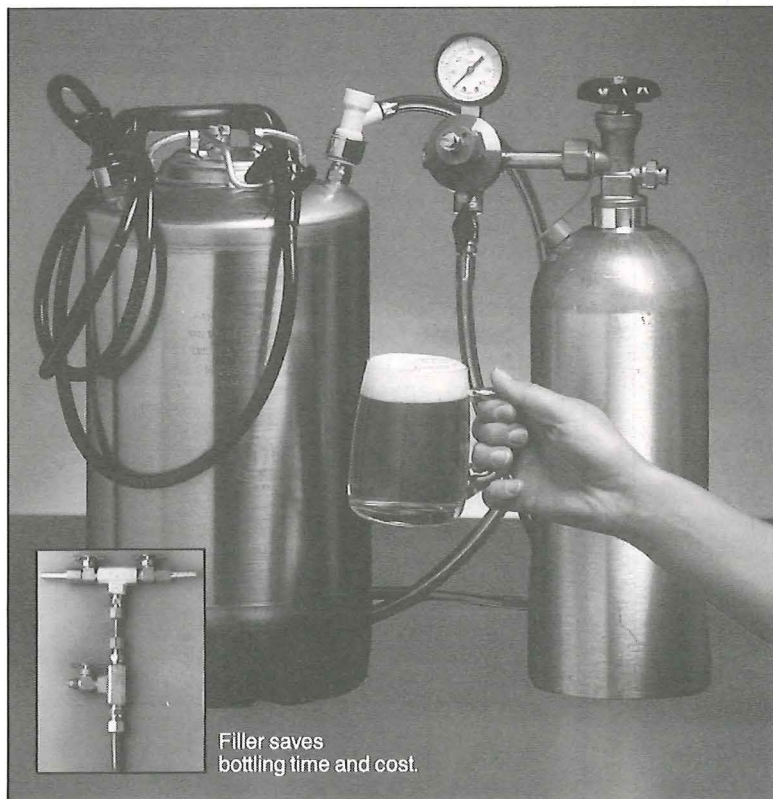
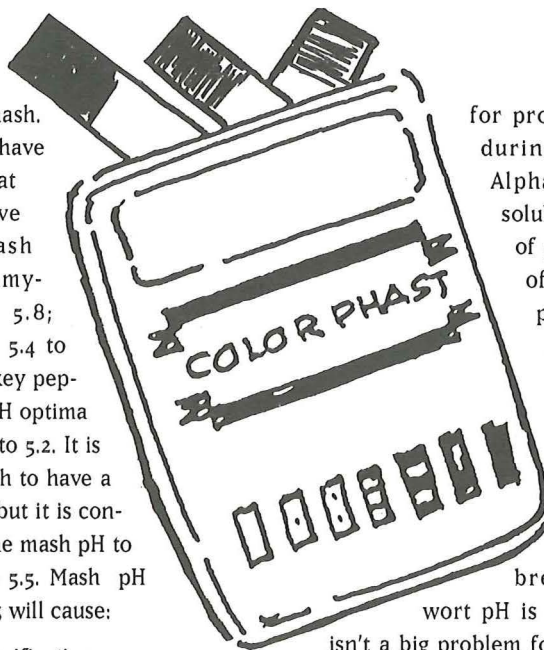
- poor saccharification
- increased mash viscosity
- reduced protein breakdown
- darker than desired color in paler beers
- harsh bitterness in the beer
- sluggish fermentation
- poor foam retention

The ideal wort pH, about 5.2, is ideal

for protein coagulation during wort boiling. Alpha acids are most soluble at a higher pH of 5.9, but the trade-off of having a wort pH at this level isn't worth the increase in the yield of bitter substances, even for commercial breweries. If the wort pH is closer to 5.5 this

isn't a big problem for ales, as top-fermenting yeasts are able to overcome a higher wort pH better than lager yeasts.

In young beer, the pH of an ale should drop to below 4.4 within a few days of pitching the yeast, and final pH of a top-fermented beer should be between 4.0 and 4.4. With lagers the decrease in pH is more gradual, but by the end of primary fermentation the pH



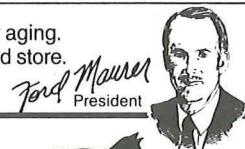
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should be between 4.4 and 4.6, and the pH of a finished lager beer is usually between 4.3 and 4.6. If the pH of an ale or a lager is below its respective pH norm, then there is a good possibility that the beer has been infected by some form of lactic acid bacteria.

This is usually evident by the taste of the beer. Obviously, with Berliner Weissbier or lambics, the pH should be lower than 4.0 and can be as low as 3.0. If the pH of an ale or lager is higher than its respective norm, then there is a good chance that the beer is old or overaged. Particularly if the pH is being continuously monitored, an increase in beer pH is a sign that autolysis is beginning to take place and that the yeast are beginning to excrete amino acids that react basic. Of course, if the wort pH was above 5.5 to begin with, then it


The simplest and least expensive way to measure pH is with litmus paper. I use paper that has a range of 4.0 to 7.0.

becomes less likely that the beer will be in its ideal pH range, particularly if the beer is a lager.

The simplest and least expensive way to measure pH is with litmus paper. I use paper that has a range of 4.0 to 7.0. With this I can determine the pH of my water, mash, wort and beer within 0.1 to 0.2. For those who desire greater accuracy, pH meters can be purchased from lab equipment suppliers for \$150 or more. The accuracy of such a unit is 0.01. Some of these units are very handy and easy to use, though most must be

calibrated with a buffer solution prior to use.

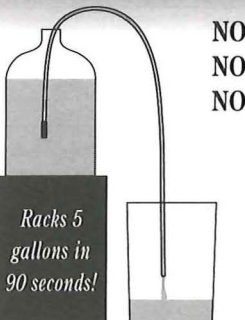
Accurate pH measurement during the brewing process can keep your beer on the right track to avoid sluggish fermentation, harsh bitterness, poor foam retention and other undesirable outcomes.

Adjusting brewing water pH is easy enough and keeps your brew true to style. 

Eric Warner is president of Blue River Brewing consultants, in Lafayette, Colo., advising clients on the technical and business aspects of operating a brewpub or microbrewery. He is a certified brewmaster, having obtained his brewing diploma from the Technical University of Munich at Welhenstephan. He has been published in *zymurgy*, *The New Brewer* and is the author of the newest book in the Classic Beer Style Series from Brewers Publications, *German Wheat Beer*.

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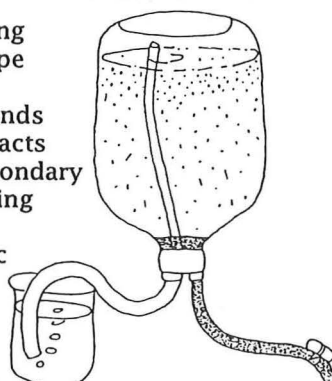
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F O R T H E BEGINNER

Alberta Rager

YEAST AND THE BEGINNER

Yeast is non-photosynthetic, relatively sophisticated unicellular fungi. Feeding off sugar compounds in the wort, yeast converts the sugars to alcohol, carbon dioxide and beer flavor compounds. Although often taken for granted, the yeast strain selected and its purity have an enormous effect on the flavor of the finished beer.

TYPES OF BEER YEAST

Brewers yeast can be divided loosely into two main species, *Saccharomyces cerevisiae* (commonly known as ale yeast) and *Saccharomyces uvarum* (commonly known as lager yeast). An excellent beer can be produced at room temperature using either variety.

Ale yeast ferments throughout the body of the wort. It is best used at temperatures of 55 to 75 degrees F (13 to 24 degrees C). Some strains will not actively ferment below 50 degrees F (10 degrees C). Generally, ale yeast matures flavors more rapidly than lager yeast and produces a rougher character and more esters than lager yeast.

Lager yeast is best used at temperatures ranging from 55

degrees F down to 32 degrees F (13 to 0 degrees C). More floral characteristics are produced by lager yeast than ale yeast and the higher degree of attenuation produces a thinner, less malty beer than ale yeast. Keep in mind that beer can be fermented by lager yeast at room temperature, but the clean crispness and desired smoothness of lagers can only be achieved by a significant period of cold storage, from three weeks to many months at temperatures below 45 degrees F (7 degrees C).

FORMS OF YEAST

Dried yeast is available in granules, liquid yeast comes in foil packs or plastic tubes and pure yeast is stored on agar. Because this article is intended for beginners, it will focus on how to use dried yeasts effectively. Readers interested in liquid yeasts and/or culturing should refer to *zymurgy* Special Issue 1989 (Vol. 12, No. 4).

The yeast you select should be determined by the temperature at which your fermentation will be occurring rather than by the style of beer you are making. Best results are achieved when you ferment at the lower end of the yeast strain's temperature tolerance.

Fermentation rate and extent of completion along with flavor quality and stability are affected by the yeast, wort and imposed conditions. Assuming that you are using a sound recipe and proper sanitization, let's look at how to get the best results from dried yeast. The amount of yeast, the conditions under which it is stored and prepared and the timing need to be considered.

To maintain maximum viability, dried yeast packets should be stored in the refrigerator at 40 degrees F (4.5 degrees C). Under these conditions the yeast will remain 30 percent viable for up to one year. As storage temperature rises, the viability of the yeast decreases.

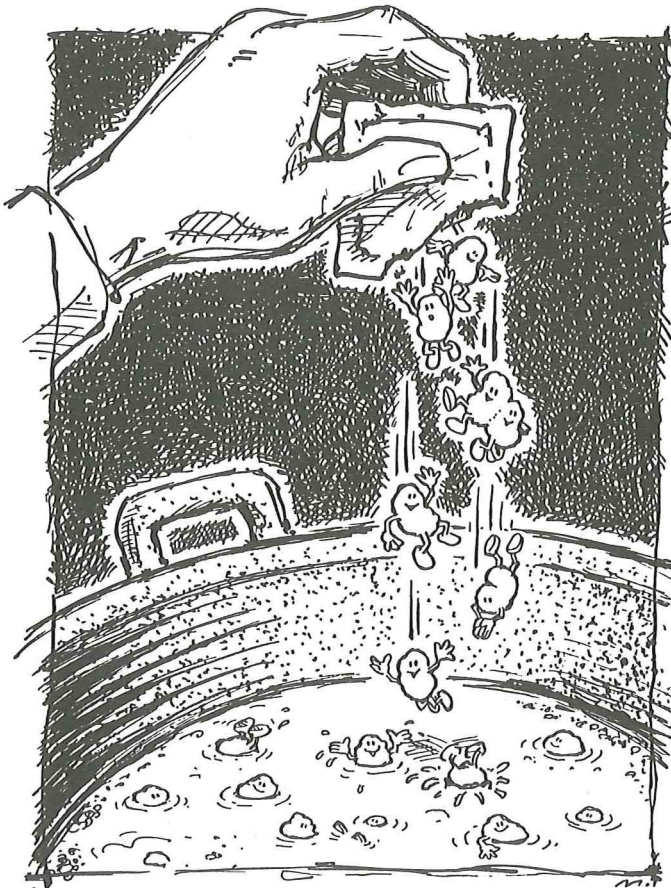


ILLUSTRATION BY JOHN MARTIN

Dried yeast should never be stored in the freezer. Foil pouches purged with nitrogen will maintain the yeast's viability much longer than plastic-lined paper envelopes.

The yeast added to the wort must be healthy, actively growing and in quantities large enough to achieve the optimum population of 50 million cells per milliliter during full fermentation. This creates a protected fermentation before the yeast competitors have an opportunity to take over. After the boil is complete and before the yeast is actively fermenting (indicated by the head forming on the wort), the wort is most susceptible to contamination. Full of nutrients, the rich sugary wort at temperatures below 100 degrees F (38 degrees C), is ideal for breeding microorganisms. Your task is to prepare the dried yeast to get a head start on the competitors and do the very best job it can to reduce this period known as "dangerous lag time."

PREPARING THE YEAST

At least 10 grams of dried yeast are recommended for a five-gallon batch of beer. In most cases that is two or maybe three packets of yeast. The dried yeast must be awakened from the dormant state before it can grow and outnumber the beer spoilage microorganisms. This should ideally occur in two steps: (1) rehydrating or getting the dried yeast wet and (2) getting it growing again by adding nutrients.

To rehydrate the dried yeast add it to one-half cup of hot water (95 to 100 degrees F, 35 to 43.5 degrees C) and stir gently. In five to 10 minutes activity will be visible. Then add the wet yeast to about 1 1/2 cups of starter wort. Keep in mind that the temperature of the wet yeast and starter wort should not vary more than 18 degrees F to avoid temperature shock. Use the rehydrated yeast within one hour. If the starter is not foaming vigorously within one hour, it lacks enough live yeast cells and should be discarded.

STARTER WORT

It is important to introduce the rehydrated or wet yeast into a medium that simulates the conditions under which you are expecting it to ferment. To minimize environmental adjustments, both malt and hops are needed in the starter.

A quick and simple starter wort can be made by boiling one quart of water with three-quarters cup of hopped malt extract for 20 minutes. Be sure you allow sufficient time to cool the starter wort before introducing the wet yeast. Another option is to place 1 1/2 cups of wort from your current batch in a pint jar and "can" it as you would vegetables for use as the starter wort for your next batch (works fine after the first batch). Another method (not the best but better than sprinkling dried yeast on top of cool wort) is to rinse the sides of the extract can with hot water, cool and add the wet yeast. Additional suggestions for starter wort can be found in *The Complete Handbook on Home Brewing* by Dave Miller, (Garden Way Publishing, 1988, pp. 92-94.)

Yeast is a living organism and should be treated as such to maximize its efficiency. This essential ingredient contributes alcohol, carbon dioxide and beer flavors. Give your yeast optimum conditions and it will produce a clean beer that exhibits the characteristics you want. Anything less and you invite production of off-flavors and aromas. So rehydrate, use a starter and reduce lag time to give that dried yeast every advantage.

Alberta Rager, a founding member of the Kansas City Bler Meisters, has been brewing for seven years. She is one of the managing partners of Bacchus & Barleycorn in Merriam, Kan., is a BJCP National Beer Judge and has conducted BJCP exam study sessions for four years. The numerous ribbons displayed in the shop, won in competitions all over the country, are evidence of her brewing skills.



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Here's your chance to make some great European lagers. Temperature control is the key to successful lagering—try to ferment these beers between about 45 and 52 degrees F (7 and 11 degrees C). At higher temperatures your yeast will produce more esters and fruity flavors than you want in a lager beer. Be sure to use a good lager yeast and choose traditional European hops like Saaz, Hallertauer and Tettnanger.

For those who want to stick with ales for your spring brewing, try an American pale ale or a wheat beer. These are terrific for spring and summer sipping. Larry Ferguson's California common beer was fermented with lager yeast at ale temperatures in the classic American tradition. For a refreshing change of pace, Daniel Jodoin's Raspberry Ale is the ticket to fruit-beer heaven. As one judge suggested, try it with ice cream.

These brews garnered their creators second or third place in the 1992 AHA National Homebrew Competition. John and Reid Harrison's Oktoberfest beat 35 other beers in the Best of Fest Club-Only Competition.

FRUIT BEER

**RASPBERRY ALE
SECOND PLACE
DANIEL JODOIN
LIVONIA, MICHIGAN
BEER UNNAMED**

Ingredients for 5 gallons

- 3 1/3 pounds Munton & Fison light malt extract
- 3 1/3 pounds Munton & Fison extra light malt extract
- 6 pounds raspberries
- 1/6 ounce Saaz hops (60 minutes)
- 1/6 ounce Saaz hops (45 minutes)
- 1/6 ounce Saaz hops (2 minutes)
- 1 package Red Star ale yeast
- 1 teaspoon gypsum
- 2 1/2 teaspoons pectic enzyme in primary
- 1/2 cup corn sugar to prime

- Original specific gravity: 1.048
- Final specific gravity: 1.017

- **Boiling time:** 60 minutes
- **Primary fermentation:** four days at 70 degrees F (21 degrees C) in plastic
- **Secondary fermentation:** 20 days at 70 degrees F (21 degrees C) in glass
- **Age when judged (since bottling):** eight months

Brewer's Specifics

Steep raspberries for 15 minutes. Raspberries were fermented in the primary for four days.

Judges' Comments

"Winy flavor—could be fruit or sugar sweetness which indicates the fruit may not have completely fermented before bottling, or yeast is suffering from oxygen deprivation."

"Nice, fresh raspberry flavor. Very clean. Raspberries are really done nicely. Serve with ice cream."

"Fruity with definite berry taste. The right amount of tartness. Very little aftertaste."

"Berry, berry. Great tasting brew! The berries really work in this beer."

BAVARIAN DARK

**MUNICH DUNKEL
THIRD PLACE
ROSS HERROLD
LA PORTE, INDIANA
"HERROLD BRAU HOUSE DARK"**

Ingredients for 10 gallons

- 12 pounds two-row malt
- 9 pounds Munich malt
- 3 1/3 pounds Northwestern plain light extract
- 1 pound Vienna malt
- 1 pound CaraPils malt
- 1 pound German dark crystal malt
- 4 ounces chocolate malt
- 2 ounces black malt
- 2 ounces Hallertauer hops, 3.6 percent alpha acid (80 minutes)

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- I ounce Hallertauer hops, 3.0 percent alpha acid (50 minutes)
- I ounce Saaz hops, 3.1 percent alpha acid (50 minutes)
- I ounce Hallertauer hops, 3.0 percent alpha acid (five minutes)
- I ounce Saaz hops, 3.1 percent alpha acid (five minutes)
- Wyeast Bavarian lager liquid yeast culture

- Original specific gravity: 1.056
- Final specific gravity: 1.024
- Boiling time: 125 minutes
- Primary fermentation: 30 days at 45 to 50 degrees F (7 to 10 degrees C) in glass
- Secondary fermentation: 35 days at 35 to 40 degrees F (2 to 4 degrees C) in glass
- Tertiary fermentation: 14 days at 32 degrees F (0 degrees C) in keg
- Age when judged (since bottling): 2 1/2 months

Brewer's specifics

Mash all grains for 60 minutes at 158 to 160 degrees F (70 to 71 degrees C). Sparge with 165-degree-F (74-degree-C) water to collect 12 1/2 gallons. Boil for 45 minutes before adding hops and malt extract.

Judges' comments

"Flavor should have more of a chocolaty, malty sweetness, but balance is quite good. Needs more malt aroma."

"Needs a little more malt flavor."

"Alcoholic flavor, good malt. Slight off-flavor in finish. Nice drinkable beer."

"Lacking some malt character. Hops coming through astringent. Use more malt and it is right on. Good start."

CALIFORNIA COMMON BEER

**THIRD PLACE
LARRY FERGISON
BROOKLYN, NEW YORK
"ONE EYE STEAM BEER"**

Ingredients for 5 gallons

- 3 pounds British pale malt
- 1 pound British crystal malt
- 1/2 pound Munich malt
- 4 pounds Alexander's pale malt extract
- 1 ounce Northern Brewer hops, 6.0 percent alpha acid (60 minutes)
- 1/2 ounce Northern Brewer hops, 6.0 percent alpha acid (40 minutes)
- 1/4 ounce Northern Brewer hops, 6.0 percent alpha acid (20 minutes)

- 1/2 ounce Cascade hops, 5.4 percent alpha acid (15 minutes)
- 1/4 ounce Cascade hops, 5.4 percent alpha acid (two minutes)
- 1/4 ounce Northern Brewer hops, 6.0 percent alpha acid (one minute)
- 1/3 ounce Cascade hops, 5.4 percent alpha acid (dry hopped)
- Wyeast California lager liquid yeast culture
- 1 1/2 teaspoons Burton water salts
- 1 teaspoon Irish moss
- 1 1/2 cups light dry malt extract to prime

- Original specific gravity: 1.052
- Final specific gravity: Unknown
- Boiling time: 60 minutes
- Primary fermentation: 10 days at 67 degrees F (19 degrees C) in glass
- Age when judged (since bottling): three months

Brewer's specifics

Mash all grains with 1/2 teaspoon Burton water salts for 20 minutes at 100 degrees F (38 degrees C). Raise temperature to 124 degrees F (51 degrees C) for 45 minutes. Raise temperature to 157 degrees F (69 degrees C) for 75 minutes. Add 1 teaspoon Burton water salts after sparging.

Judges' comments

"Could have more toasted or caramellike maltiness; malt-hop balance OK, but could be hoppier for style. Conditioning OK. Slight lingering hop bitterness. Work on malt-hop balance. Very nice beer."

"Caramel maltiness, but a little too pronounced despite high hopping rate. Lingering bitterness."

"Nice smooth malt flavor with slight hop flavor at first. Seems to have good balance. Very well-made beer."

"Nice malt, but not enough 'oomph' to the hops. Needs more bitterness, a bit sweet on the finish."

CLASSIC PILSENER

BOHEMIAN THIRD PLACE

**RICHARD ROSEN AND SAM ABERLE
ANDOVER, CONNECTICUT**

"THE BOHEMIAN BEAT (GREEN CIRCLE)"

Ingredients for 5 gallons

- 1 pound pale malt
- 4 pounds Alexander's pale malt extract
- 1 pound Laaglander light dry malt extract
- 2 ounces Hallertauer hops, 4.4 percent alpha acid (60 minutes)
- 1 ounce Tettnanger hops, 4.5 percent alpha acid (30 minutes)

- 1 ounce Saaz hops, 3.1 percent alpha acid (10 minutes)
- Wyeast No. 2124 Bohemian Lager liquid yeast culture
- 1 pinch Irish moss
- 3/4 cup corn sugar to prime

- Original specific gravity: 1.044
- Final specific gravity: 1.016
- Boiling time: 60 minutes
- Primary fermentation: 12 days at 55 to 60 degrees F (13 to 15 degrees C) in plastic
- Secondary fermentation: 26 days at 50 to 53 degrees F (10 to 12 degrees C) in glass
- Age when judged (since bottling): four months

Brewers' specifics

Steep grains for 60 minutes at 155 degrees F (68 degrees C).

Judges' comments

"Good-flavored beer. I like it. The hop is a little aggressive for the malt. Body a wee bit thin."

"Hop profile is off. Grassy taste gives a strange flavor."

"A nice, well-made beer. The balance was off—too sweet. The hop character should be distinctly noble."

"Flowery hop aroma. Maybe a tad fruity."

AMERICAN-STYLE PALE ALE

AMERICAN PALE ALE SECOND PLACE

**MICHAEL CHRONISTER
NORRISTOWN, PENNSYLVANIA
"THIRD FLOOR MILD ALE"**

Ingredients for 5 gallons

- 5 pounds two-row mild ale malt
- 1 pound two-row pale ale malt
- 2 pounds two-row Munich malt
- 1 ounce Perle hops, 7.7 percent alpha acid (30 minutes)
- 2 ounces Cascade hops, 5.2 percent alpha acid (20 minutes)
- Leigh-Williams beer and stout dried yeast
- 1 teaspoon gypsum
- 3/4 cup corn sugar to prime

- Original specific gravity: 1.048
- Final specific gravity: 1.014
- Primary fermentation: seven days at 62 to 64 degrees F (17 to 18 degrees C) in glass
- Secondary fermentation: 10 days at 50 degrees F (10 degrees C) in glass
- Age when judged (since bottling): six months

Brewer's specifics

Mash all grains for 90 minutes at 152 degrees F (67 degrees C). Sparge with 3 1/2 gallons 165-degree-F (74-degrees-C) water.

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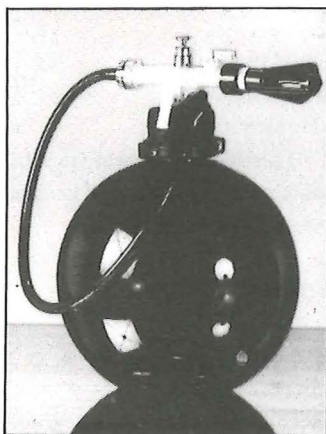
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Judges' comments

"A great beer. Needs to be bigger. Flavor is slightly laid back."

"Slightly metallic tinge to hop character—water? Otherwise pretty well balanced, nice beer. Could use a little more flavor hops."

"Good balance. Slight astringent aftertaste. Not a big problem, but watch your sparging if you mash."

"Slightly oxidized, body is good for style."

DORTMUNDER/EXPORT

SECOND PLACE
GREGORY WALZ

PITTSBURGH, PENNSYLVANIA
"WALZ' EXPORT"

Ingredients for 10 gallons

- 20 pounds two-row Briess malt**
- 3 pounds Munich malt**
- 1 pound CaraPils malt**
- 2 ounces Hallertauer hops, 6.5 percent alpha acid (60 minutes)**
- 1 ounce Hallertauer hops, 3.0 percent alpha acid (20 minutes)**
- 1 ounce Tettnanger hops, 4.8 percent alpha acid (10 minutes)**
- 1/2 ounce Tettnanger hops, 4.8 percent alpha acid (two minutes)**
- 1/2 ounce Saaz hops, 3.5 percent alpha acid (two minutes)**
- Wyeast No. 2035 liquid yeast culture**
- 1 teaspoon gypsum**
- 1 teaspoon non-iodized salt**

- **Original specific gravity: 1.048**
- **Final specific gravity: 1.013**
- **Boiling time: 90 minutes**
- **Primary fermentation: 14 days at 50 degrees F (10 degrees C) in glass**
- **Secondary fermentation: 60 days at 34 degrees F (1 degree C) in glass**
- **Tertiary fermentation: 14 days at 45 degrees F (7 degrees C) in glass**
- **Age when judged (since bottling): seven months**

Brewer's specifics

Mash all grains for 30 minutes at 120 to 122 degrees F (49 to 50 degrees C). Raise temperature to 152 to 154 degrees F (67 to 68 degrees C) for 52 minutes. Sparge with 170-degree-F (77-degrees-C) water.

Judges' comments

"Good malt-hop balance. Dry aftertaste. Some grainy-husky characteristics in flavor."

"Excellent malt-hop balance. Some appropriate mineral quality in finish. Toasty malt flavor and long finish. Super job."

"Dry. Good. Perhaps a little too much hop bitterness."

"Leans toward hops. Great use of finish hops, but cut back on hops in the boil."

BEST OF FEST CLUB-ONLY COMPETITION WINNER

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Ingredients for 5 gallons

- 4 pounds aromatic Munich malt
- 8 pounds Belgian Pils malt
- 1/2 pound special Belgian malt
- 1 1/2 pounds caramel malt 10 °L
- 1 ounce Perle hops, 7.6 percent alpha acid (60 minutes)
- 1/2 ounce Tettnanger hops, 4.5 percent alpha acid (40 minutes)
- 1 ounce Hallertauer hops, 2.9 percent alpha acid (20 minutes)
- Pilsner Urquell yeast culture and Brewer's
Choice Bavarian lager yeast culture

- Original specific gravity: 1.066
- Final specific gravity: Unknown
- Boiling time: 60 minutes
- Primary fermentation: two days at 60 degrees F (15 degrees C) in plastic
- Secondary fermentation: 21 days at 50 degrees F (10 degrees C) in glass
- Tertiary fermentation: three months at 48 degrees F (9 degrees C) in keg
- Age when judged (since bottling): one month

Brewers' specifics

Mashed all grains for 30 minutes at 124 degrees F (51 degrees C). Raised temperature to 156 degrees F (66 degrees C) for 30 minutes.

Judges' comments

"A little too much roast malt for style—a very good beer—perhaps too much hop in finish. Balance not quite there."

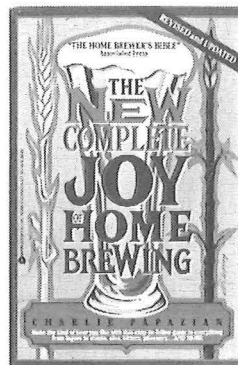
"Very drinkable. Good, malty overall taste and finish with just the right amount of hop bitterness. Hold off a bit on the darker malts."

"A bit on the bitter side for finish. Too roasty in malt taste. Needs more toasty malt and sweetness on finish. Try a different hop to rid metallic taste. Very close to a great Oktoberfest."

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WORLD OF WORTS

Charlie Papazian

Tennessee Waltzer Dunkelweizenbock

It began as a wheat beer. It ended up a dark wheat bock. It was a waltz in the moonlight, perhaps in Tennessee or even on a crested butte in Colorado, Dunkel-weizenbock. Inspired by one who loves beer but not bitter, this is for hop heads to avoid. This is not a hoppy beer. Rather, in the tradition of southern Germany, this brew has a predominantly malty character and low hop bitterness.

Here's a beer that has about 20 percent wheat malt rather than the more traditional 40 to 50 percent. I know, I know, please allow me to design my own wheat beer. I really do like the taste. Deceptively strong, this brew is about 5 1/2 percent alcohol by volume. Richly dark but not opaque, I think a Bavarian would suck this one up (down) with a glee and a waltz. Immensely drinkable. You can add your favorite wheat beer yeast, but I chose to use commonly available American ale yeast No. 1056, otherwise known as Chico Ale yeast. I don't care

for that clovelike wheat beer character, but you might.

I'm tempted to suggest that if you want a little more German hop character, add about one-half ounce of German-grown Hallertauer for the last 15 minutes to add a little of that earthy, spicy, unique German-grown hop flavor. But I won't recommend it because the recipe is so good as is I'd

hate to present a confusing situation to you and force some really difficult choices. So I'll spare you, but only this time. You'd be better off being a Tennessee Waltzer.

Ah yes, it's a bock beer; 1.064 gravity you know. That makes it official if I wish. I wish.

So let's cut the shuck

and jive and get on with the recipe.

For this five-gallon mash-extract recipe you will need:

For the mash

- 1 1/2 pounds crushed Munich malt
- 1 pound crushed pale malt (I used six-row, two-row is fine)
- 1 pound crushed English crystal

malt (about 40 °L for those with a choice)

- 2 pounds crushed wheat malt
- 1/4 pound crushed chocolate malt
- 1/4 pound crushed black patent malt

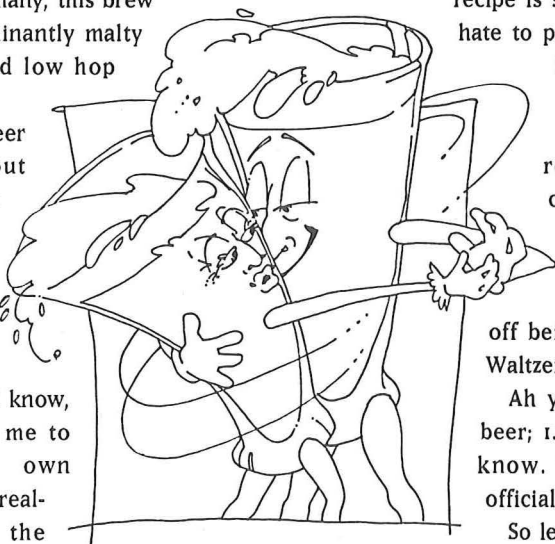
(You may substitute all of the above except for the black and chocolate malts with 3.3 to 3.5 pounds of wheat malt extract.)

To the extract you obtain by mashing the above you will add:

- 3 1/2 pounds dried light malt extract
- 10 Homebrew Bittering Units (I used about 1 1/2 ounces of 6 percent American-grown Spalt hops, German-grown are fine.)
- 1/2 ounce American-grown Hersbrucker for aroma hops (German-grown are fine.)
- 3/4 cup corn sugar (or 1 1/4 cup dry malt extract) for priming
- 2 packets ale yeast or liquid culture (I used American ale No. 1056.)

- Original gravity: 1.062 to 1.066
- Final gravity: 1.015 to 1.019

For the mash I used a simple one-step infusion. I was pressed for time and needed to simplify the process, so I did it with excellent results. To 1 1/2 gallons of 178-degree-F (81-degrees-C) water add



the crushed grains and mash at 158 to 160 degrees F (70 to 71 degrees C) for about an hour. No problems. Don't worry. Relax. Have a homebrew. Strain the sweet dark extract off and sparge with about 3 gallons of 170-degree-F (76.5-degrees-C) water.

To the homemade extract add the dried light malt extract and the bittering hops. Keep at a rolling boil for one hour. You should try to boil off about three-quarters to one gallon of wort.

During the final three minutes add the aroma hops and steep.

Strain the hops out as you pass the hot wort into a sanitized fermenter to which 1 1/2 gallons of cold water have been added. The volume should be topped off to 5 gallons and yeast pitched once the temperature is below 76 degrees F (24.5 degrees C). Ferment at about 70 degrees F (21 degrees C).

When fermentation is complete bottle with priming sugar. Hold your breath and wait until ready. It's worth it (if you're not a dyed-in-the-wool-got-to-have-bitterness hop head). A rather rich, malty, highly drinkable dark wheat beer that will certainly inspire you to relax and enjoy this as if you were a Tennessee Waltzer.

HOME BREW BITTERING UNITS

Homebrew Bittering Units are a measure of the total amount of bitterness in a given volume of beer. Bittering units can easily be calculated by multiplying the percent of alpha acid in the hops by the number of ounces. For example, if 2 ounces of Northern Brewer hops (9 percent alpha acid) and 3 ounces of Cascade hops (5 percent alpha acid) were used in a 10-gallon batch, the total amount of bittering units would be 33: $(2 \times 9) + (3 \times 5) = 18 + 5$. 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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DEAR

P R O F E S S O R



PARFUM DE HOPS

Dear Professor,

I had a bag of Cascade hops break open in the back seat of my car. Now the car smells like a \$3 hooker. My girlfriend keeps giving me dirty looks. What can I do?

Yours truly,
D. Raft
Alma, Ontario

Dear D. Raught,

If your \$3 hooker smells anything like Cascade hops, she should raise her

prices. Meanwhile, keep your girlfriend in the front seat and tell her you love her (your girlfriend, that is).

Sparged and sassy,
The Professor, Hb.D.

TERRIBLE EXTRACTION

Dear Professor,

I have been getting terrible extraction rates from my grain-bag system. I do not use a false bottom like Dave Miller. I have been debating the merit of his system over the slotted copper tube idea. Heck, I don't even know if the slotted tube should run inside the circumference of the pail or just be a straight piece running to the spigot. Could you please discuss both of these lauter-tun systems, their advantages and disadvantages?

Straining at the grist,
Geoff Kuziq
Edmonton, Alberta
Canada

Dear Geoff,

There are many articles and chapters in books devoted to lauter-tun systems. The subject is too lengthy to go into detail in this column, but I will say there are many configurations for the slotted tube approach. I'm a false-bottom man myself. I'd recommend it, especially if you aren't satisfied with your present system.

Gristing the strain,
The Professor, Hb.D.

HOP CONFUSION

Dear Professor,

Am I right to assume that homebrewers can expect 25 percent utilization with whole hops and 30 percent with hop pellets? I use only hop pellets out of necessity. I am a bit confused about hopping schedules using pellets. Some sources indicate pellets should be boiled a maximum of 30 minutes; does this give 30 percent utilization? Some sources say one can count on hop pellets giving "their full quota of alpha acid" for the third hop addition (last 10 minutes). If this is true, how on earth could there be any hop aroma or flavor left in the brew? What do you suggest?

Until I hear from you, I will continue to add my bittering hops 30 minutes before the end of the boil and my aroma hops as dry hops (I get good results, but am I missing out on hop flavor?). I should also mention that I brew solely all-grain beers and that when adding pellets 10 to 15 minutes before the end of the boil (and counting half the HBUs from this addition toward the total) my beers were over-hopped and more bitter than I expected.

One unrelated question, professor. Your friend Papazian has done it again—added to my unending list of brews to try. I am referring to his Vicarious Gueuze Lambic (sour mash). If I try his recipe with all grain, should I still "sour" with just the one pound of malt or should I increase the amount? Also, couldn't one get the same result by solely adding lactic acid (which the lactobacillus is producing anyway) to the green

beer prior to fermentation (if so, what pH should I go for)? Again, this idea comes from Miller—his witbier recipe uses lactic acid to bring the green beer down to a pH of 4.2 before fermentation.

And now for a Turkana Best Brown Ale, too bad you're not here ...

Russ Kruska
Nairobi, Kenya

Dear Russ,

With all this seemingly contradictory information, no wonder you're confused. I hope an answer from the professor won't be more confusing.

From my experience and what I've heard through the grapevine, I'd have to say that generally you count on getting 5 percent better utilization from pellets than from whole hops. This difference lessens when you've got a good full-wort rolling-kettle boil.

Let's take a look at hop pellets. They are whole hops that have been compressed, mangled and extruded into a pellet. Their lupulin glands have been ruptured, so when added to a boiled wort they give up their goodness more readily. This "hot compression-extrusion" alters some of the qualities of the hop, some people claim. But this change is neither good nor bad; it is simply different. At least that is the way I look at it.

Assuming you are getting fresh pellets, they compare favorably to fresh whole hops and vice versa. In the end you can get just about as much bitterness out of whole hops as pellets if your kettle boiling is optimum (time, vigor, configuration of kettle, full wort boil (rather than a concentrated extract boil). For homebrew practical purposes the difference is about 10 to 15 percent more bitterness (about 3 to 5 percent difference in utilization). In my opinion this difference is so small it can be ignored.

I believe all worts should be boiled a minimum of one hour for full chemical reactions to take place between hops and malt and malt and water. Short boils, less than one hour, can lead to other unfavorable flavor characters such as DMS (dimethyl sulfide, see *zymurgy* Special

Issue 1987 (Vol.10 No.4) and Principles of Brewing Science by Dr. George Fix, Brewers Publications, 1989).

From my experience a 60-minute boil can give 30 percent utilization with optimal conditions. Likewise, a 45-minute boil will give 27 percent utilization, a 30-minute boil will give 15 percent utilization, 15 minutes will give 6 percent utilization and two minutes will give very little utilization. Now with all this *bocus pocus* we are talking about bitterness contributed to the beer by International Bittering Units that make their way into the beer through "utilization" and isomerization. But, the all-important but, there are other things that can contribute to bitterness beside IBUs, which are present in hops (during dry hopping for example), dark malts, water quality and autolyzed yeasts, etc. So don't play strictly by the numbers, your own feeling for the art of brewing will help you balance your beer properly.

I have had very good results and gently bittered beers with a good dose of

hopping at various times during the boil. The beers come out the way they should.

Hop flavor and aroma generally are contributed to beers by boils of 30 minutes or less. By not adding hops at these latter stages I think you are missing out on some desired complexity.

By the way, there is an excellent treatment of this subject in *zymurgy* Spring 1990 (Vol.13, No. 1), "Easy Hops For the Beginner" that treats the subject of whole versus pellets.

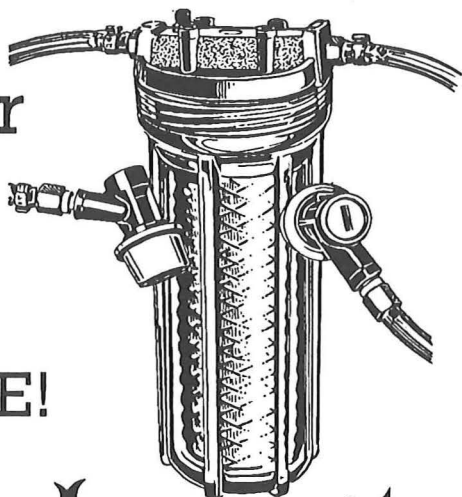
Regarding lactic acid in the mash, you will never get the complex biological character of lactic acid by simply adding it to your beers to make it sour. I've tasted beers where this was done and sure, they tasted a bit sour, but that's all. There was no wonderful complexity of your own microbiological ferment. One pound of malt will get things going with your all-grain brew.

Say hello to Uncle Rhino for me, willya?

Kenya do it again,
The Professor, Hb.D.



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CONTINENTAL PILSENER, OLD ENGLISH BITTER KITS

With an eye toward the North American homebrew market, Munton and Fison released the new Munton's "Gold" group of homebrew kits. Munton's "Gold" kits, available in Continental Pilsener and Old English Bitter, are unique because they satisfy America's thirst for brewing all-malt beers. The kits address the problem of incomplete fermentation and are guaranteed to attenuate fully. In accordance with Munton's philosophy, the kit instructions recommend simple brewing methods. If that's not enough, Munton's "Gold" kits comply with the 15th-century Reinheitsgebot, the German purity law. Check with your local homebrew retailer to order Munton's "Gold" Continental Pilsener and Old English Bitter. The manufacturer's suggested retail price for a seven-pound, all-malt kit is between \$18 and \$22.

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BREWERS WORKSHOP SOFTWARE PROGRAM

New from TKO Software is Brewers Workshop, a computer program that runs on Microsoft Windows™ and allows homebrewers to tailor recipes to any of the 33 different styles included in the program. Each style is defined by original gravity, color and bitterness of the beer. The program allows brewers to add grains and malt extract (on computer) to their recipes and see how those additions will affect color, original gravity and bitterness from 22 different hop styles listed. Dialog boxes simplify the process of entering data. Homebrewers will be able to tailor recipes to meet

competition standards with certainty. By checking the style parameters (gravity, color and bitterness) against the style definition, it is easy to see what ingredients and amounts are needed to complete a given recipe. The Brewers Workshop program has an extensive "help" file and is available from TKO Software. Manufacturer's suggested retail price is \$49 (plus \$3.63 tax for California residents only). To request a Brewers Workshop brochure, write to TKO Software at 423 Greenwood Dr., Arroyo Grande, CA 93420.

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THE BEST FROM KITS

Kurt Denke

Our hobby is, in a way, one founded on oral tradition. No, I don't mean siphon-sucking, I mean folklore. Brewing methods often are passed down from one brewer to another through the good ol' "show me" technique. It seems that nearly everybody learned brewing from a friend, who learned it from a friend, and so on. This was true in the early post-Prohibition period, when all brewers learned the craft from Uncle Jake, and probably has been true since the dawn of homebrew.

Unfortunately, oral tradition has its limits when it comes to conveying large amounts of relatively detailed technical information. A good example of this problem turned up on CNN recently. It seems that an elementary school student, after being taught how to make homebrew by her teacher, mixed the ingredients together in a bottle and screwed the lid on tight. A while later—well, you know what happened. Her parents weren't too happy about the beer smell in the carpet. Setting aside for the moment the three obvious questions, (1) Why didn't they teach this in my elementary school? (2) Couldn't they have gotten to it by junior high, at least? and (3) Can I get my kids enrolled in this school?, it's evident that oral communication can lead to catastrophes that easily could have been avoided. Here, a single missing detail—"Don't seal it up tight, or *kaplooie!*"—left a grade-schooler beerless and her parents annoyed. The only person who benefited from this little transaction was the local carpet cleaner.

I'm sure this is exactly why we have books today. The way I figure, back in the Dark Ages some monk stoppered a ceramic jug of wort, resulting in the same *kaplooie* sound that exploding beer still makes. He probably then demanded that one of his brewing brothers write down everything he knew about making non-exploding beer. A thousand years or so later, Johannes Gutenberg probably heard a sound—*kaplooie*, most likely—as his first batch self-destructed. Why? Well, perhaps some other fellow had the only existing copy of *The Complete Joy* checked out of the library. I can't prove it happened this way, but I can't think of a better reason to invent movable type. Homebrewers, as we all know, are a resourceful bunch.

Movable type, however, has brought one curse—an evil force so perverse and vile that no one can view it without being changed forever. I refer, of course, to the instruction leaflets that come with homebrew kits. These little pamphlets would have us do peculiar things to our worts—heat them to death during fermentation, add enough sugar to sweeten the Mississippi, deprive them of character-building aroma hops and not even honor the fundamental right of every

wort to be boiled. On the principle that one reaps what one sows, the starved and tormented worts produced by these instructions are thin, fizzy beers with the head retention of ginger ale and all the character of dishwater. A grade-schooler could follow these instructions, but the finished beer would make her wish the batch had simply gone *kaplooie*; at least the house would smell like beer.

Whenever I have an idle moment, I like to think of the various ways of folding, spindling, mutilating, burning, obliterating, tearing and generally destroying these little leaflets. I imagine collecting them all and launching them in a rocket to the moon, or better, shooting them into the sun. Of course, ignoring them is equally effective, but I like drama. What other ways are there to purge our lives of these recipes for disaster? Exorcism, ritual sacrifice, lethal injection and hanging come to mind.

To sum up, there are two main points: (1) read a good book instead of those horrid little leaflets and (2) teach your child how to use an airlock.



LAAGLANDER DUTCH LIGHT LAGER KIT

Laaglander kits are produced in Holland for Paine's, the makers of John

Bull extracts. This kit, Dutch Light Lager, is the most popular of the Laaglander line and is widely available. It isn't the palest extract on the market, but it's quite pale and makes a pleasant beer. I brewed it up like so:

For five gallons:

- 1 can (3.3 pounds) Laaglander Dutch Light Lager kit
- 1 can (4 pounds) Alexander's Sun Country extract
- 1 ounce Hallertauer hops
- ale yeast (supplied with kit)
- 3/4 cup corn sugar (for priming)
- OG: 1.050 (estimated)
- FG: 1.019

To keep this beer as pale as possible, I brought approximately 4 1/2 gallons of water to a boil, mixed the extracts with a gallon of that boiling water in a separate pan then returned it to the kettle. I boiled the wort for 10 minutes and added the hops at the end of the boil then force-cooled the wort. After about 10 days of fermentation, the beer was batch-primed and bottled.

The finished beer is a light-to-medium golden color, with good head retention and clarity. The body is medium-to-heavy, denser than typical for a light lager kit. The aroma is a bit malty and quite pleasant. The hop rate, however, is a bit low for my taste; I suggest either adding more bittering hops to the boil or using two cans of the kit to five gallons of water to bring up the bitterness. All in all, a very nice kit.

MOUNTMELICK IRISH STOUT

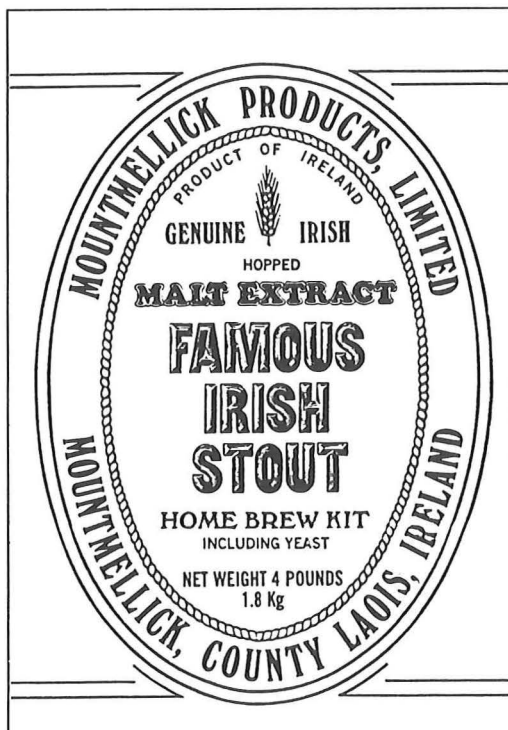
Mountmellick kits come from Ireland, home of stout, peat and potatoes. There are plenty of stout kits on the market and the Mountmellick kit

has a long-standing reputation as one of the best. I made a fairly straightforward batch like so:

For three gallons:

- 1 can (4 pounds) Mountmellick Stout kit
- 1 ounce Northern Brewer hops
- ale yeast (supplied with kit)
- 3/4 cup light dried malt extract (for priming)
- OG: 1.048 (estimated)
- FG: 1.016

I boiled the full volume of the wort for 30 minutes, adding the hops during the last five minutes. The wort was force-cooled and the yeast pitched to do their merry task.



The finished beer is as dark as a stout should be, opaque in anything other than a narrow glass. The aroma and flavor are more assertive than in the typical stout kit—lots of roasted grain flavor is evident and there is a good bitter bite. This is a handsome beer with an all-round pleasant flavor, especially if you're not afraid of a stout that tastes like stout.

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REVIEWS

"THE BOX" BY THE CASE PLACE

I know of no group of hobbyists that is better at recycling than homebrewers. From glass bottles to old stainless-steel beer and soda kegs to retired restaurant equipment, most homebrewers will make every effort to reuse an object rather than commit it to a landfill. This penchant for economy and waste saving extends to those brewers who ship their potential prize winners to competitions as well. I have unpacked more than 1,000 homebrew entries in various competitions. Trust me, nothing has escaped use as a packing material.

Some months ago I was approached by a gentleman in Arkansas who had an idea about making a shipping container for beer that would be completely reusable and offer outstanding protection to its precious contents.

What evolved from his vision is "The Box." This is as complete a shipping system as you can imagine. The container is made of double corrugated cardboard that withstands 200 pounds. It is lined with plastic and filled with a foam insert cut to hold up to 12 long-necks. The Box offers maximum protection with a minimum of effort in both the packing and unpacking. The size of The Box (a cube about two feet on each side) is large enough to make it stable and discourage handlers from tossing it around yet still hold a manageable load (full weight is about 24 pounds). Special pouches are attached to the insides of the flaps to hold entry forms, fees and other paperwork.

The entire concept revolves around the reuse of the product. The Box is intended to be returned to the entrant by the competition organizers. While at first this may sound like it makes more work for the organizers, think of it in terms of: (1) no debris to discard, (2) no digging to locate entries and paperwork and (3) no long hours unpacking all those assorted boxes. Brewers who don't necessarily compete but do exchange beer with friends across the country also will benefit from this system.

When sending homebrew to a competition, the entrant simply includes the return postage payment along with the rest of the paperwork. The Box is constructed so the return labels are affixed to the top flaps. All the unpackers need do is reverse the flaps once the box is empty and apply a few pieces of tape. If several of these boxes show up at a given competition, UPS can be contacted to make a one-time pickup. The maximum cost to ship The Box anywhere in the contiguous United States, empty, via UPS ground transportation is about \$5. When filled with 12 bottles, the maximum cost is about \$12 using the same service.

It is unlikely that anyone will miss the fact that the package is special and should not to be added to the trash heap. There are plenty of labels on the outside declaring "Re-usable Container,

Return Empty, Do Not Destroy." In fact, the creator of the system tells me he has used it several times, without prior warning to the recipients, and the empty box has always been returned properly.

I know many of you are saying to yourselves, "Well, that's a nice idea but I can make my own box."

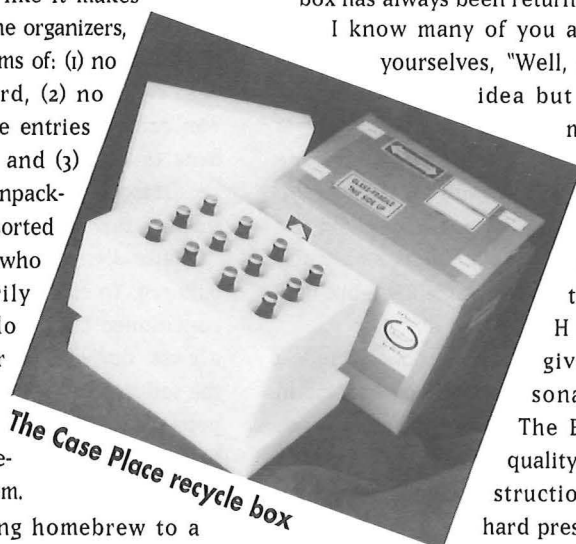
True, you could build a facsimile of this system.

However, given the reasonable cost of The Box and the quality of the construction, you'd be hard pressed to make anything as efficient or

durable for the same price. If you are an ardent competitor or just like to exchange homebrew via long distance, this system is for you.

Manufacturer's suggested retail price: \$21. For more information on The Box contact: The Case Place; 112 Mockingbird, Harrison, AR 72601 (501) 741-3117.

—Russ Wigglesworth



THE YEAST CULTURE KIT

Beginning and advanced homebrewers have something in common. Both must have a source of yeast to pitch. Yeast comes in dried form and in packages containing liquid yeast and starter

medium. Another way you can obtain yeast for your brew is to start and maintain your own yeast bank. "What!" you say, "I'm not a microbiologist. I don't have an autoclave and all the chemicals and glassware and technical stuff to do that." Well, surprise, you don't need all that technical stuff or a degree in microbiology.

The Yeast Culture Kit comes with nearly everything you need to culture and maintain your own yeast bank. It includes alcohol lamp, inoculation loop, Parafilm (described as stretchable wax-like paper), five petri dishes with sterile solid yeast media, 15 minitubes filled with sterile liquid yeast media and 10 screw-top containers filled with sterile liquid yeast media.

Other items included are five minitubes and five test tubes filled with sterile solid yeast media, one prepared test tube slant of ale yeast strain and one prepared petri dish with ale yeast strain.

The instructions provided could use a little work—the print is small and there are several misspellings—but they tell you exactly what to do.

The Yeast Culture Kit Co. also sells a yeast bank that includes 20 strains of brewing yeast. The strains come in test tubes with solid growth media and a small booklet giving some details on each strain. The strains are not named beyond generic origin (England, United States, Germany) and type (ale, lager, Champagne). Some of the strains have flavor and performance profiles that give some idea of what the yeast will do to your wort.

I combined the two products and made yeast starters from the yeast bank using the yeast culture kit. It's easy. Light the alcohol lamp, hold the inoculation loop in the flame until it glows red hot, open a test tube of yeast, pick up a tiny bit of yeast with the loop, close the test tube then dip the loop into one of the minitubes of liquid growth media. This little tube is set aside for a couple of days to allow the yeast to multiply then the starter is transferred to one of the larger tubes of

liquid media for further growth. At this point you can pitch the yeast into your wort or do another transfer into your own supply of starter. I used both techniques and they worked well.

To avoid contaminating your yeast strains, you can make "working stock" cultures with the petri dishes. This procedure is the same as before, except you smear the yeast onto one of the petri dishes of solid media. After this yeast multiplies you can make your starter cultures with it and keep your original yeast bank safe and pure. I have had several "working stock" petri dishes in my fridge for several months now and the yeast has remained alive and pure. One dish has some mold growing in it, but it is a simple matter to reculture the colonies of pure yeast onto another dish to purify your stock. You can partially monitor your yeast bank to detect contamination and prevent it from spreading by looking at and smelling the cultures you make.

Naturally, any yeast source can be cultured. To culture yeast from a bottle-conditioned beer, decant the beer into a glass, dip your inoculation loop into the sediment and smear the loop onto a petri dish. This will grow in a few days to a full-fledged working stock of whatever yeast was in the bottle. You may have to purify the culture by transferring pure clumps of yeast to other dishes, but it does work eventually.

I was very pleased with my results from the Yeast Culture Kit. A little practice is necessary—you have to be quick so you don't contaminate your yeast by exposing it to the outside air for long. After I got the hang of all the caps and slants I had no problems.

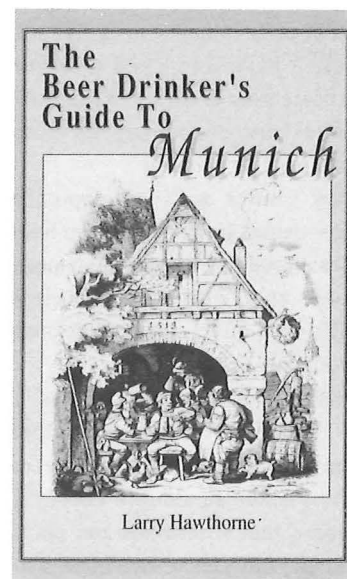
I made five batches of beer with five of the yeast strains in the yeast bank—Kölsch, wheat beer, Scotch ale, cider with the Champagne yeast and Belgian ale. I was very impressed with my final products. All the beers came out clean and the style characteristics derived from yeast were very well represented in my batches. The wheat beer in particular had all the classic yeast character-

istics and the Belgian ale shows signs of aging into the classic abbey flavor.

The manufacturer's suggested retail price for the Yeast Culture Kit is \$24 and the Yeast Bank is \$16. For \$40 you can have all the yeast you will ever need for your brewing. You will have to buy or make additional petri dishes and starters, but the cost benefits are obvious, considering the price of the yeast you would normally buy for each batch of beer you make. If you are willing to take some extra time and plan your brewing, yeast culturing can be fun and rewarding. The Yeast Culture Kit and the Yeast Bank are available from The Yeast Culture Kit Co., 6005 Mustang Place, Riverdale, MD 20737.

—James Spence

THE BEER DRINKER'S GUIDE TO MUNICH



This is a magnificent little book. If you are traveling to Munich, it's a god-send. If you are going only as far as your armchair, it is a wonderful vicarious journey.

The guide begins aptly with a quote from Thomas Wolfe's *The Web and the Rock*, "Munich is a kind of German heaven ..." and proceeds immediately to the proof thereof.

For each of 40 featured beer gardens and beer halls, you will find clear directions and a map, address, telephone number, featured beer, hours and seating capacity. This is followed by a narrative that includes the history and special enticements of each location and a one-to-five beer rating for the numerically inclined.

Whether you are partial to helles or dunkel, you will find them in these pages along with wood-grilled chicken and sausage, spreading chestnut trees and river views, jazz or oompah, patrons dressed to the nines or not at all as they wander in from a nearby nudist beach.

The guide gives a rich sense of history, even the dark parts, which are dealt with openly but without sensationalism. A very informative chapter on Oktoberfest ("and other keg parties") is a special boon to the traveler with a sense of timing. Ironmen and Amazons may turn to page 136, "After Hours."

Although the book lacks an index, it makes up by offering a glossary of German terms, a guide to German beer and a handy series of lists for those who haven't the time to visit every single beer garden, hall or pub in the guide.

The lists include a "six-pack" for visitors on a weekend itinerary, the top baker's dozen, plus lists of the cheapest, biggest, closest, wildest and most traditional, as well as the places that are best for travelers with children, best in bad weather, best for those under 30, those with the best-tasting beer and the ones where the beer is brewed on the premises.

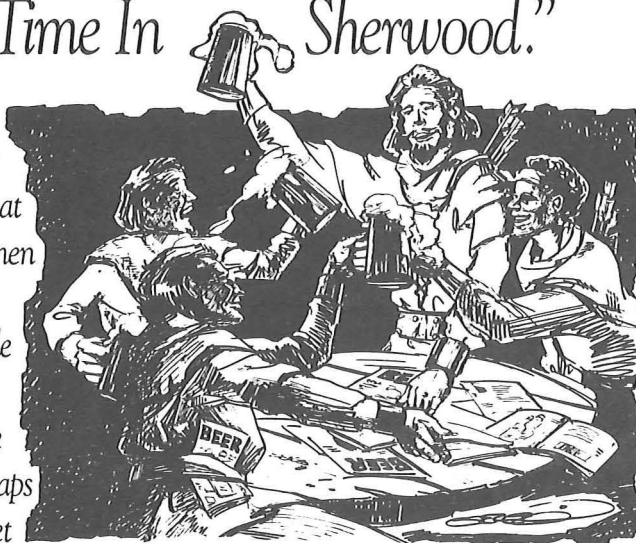
The author, who has lived and traveled in Europe for 20 years, shows his experience in the book's careful attention to detail. Don't leave home without it.

The Beer Drinker's Guide to Munich. Larry Hawthorne. (Freizeit Publishers; publisher's suggested retail price: \$8.95). —Kihm Winship

The malt mill reviewed in *zymurgy* Fall 1992 (Vol. 15, No. 3) is available from Jack Schmidling Productions. For information write or call 4501 Moody, Chicago, IL 60630, (312) 685-1878.

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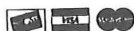


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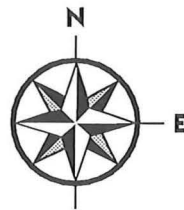
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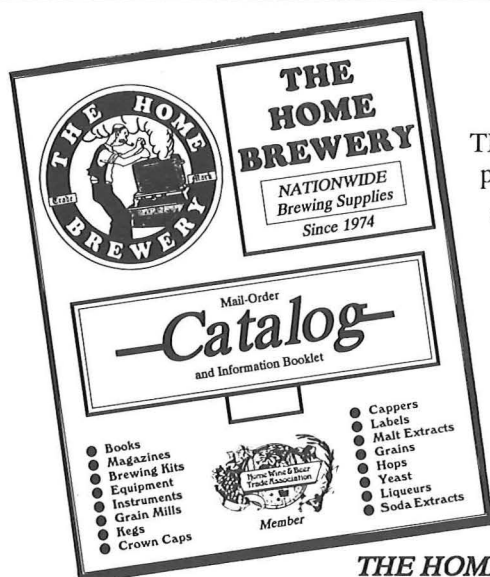
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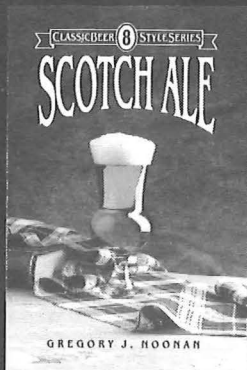
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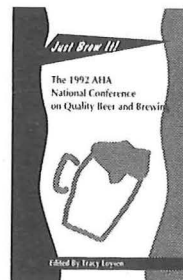
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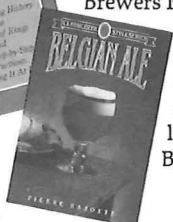


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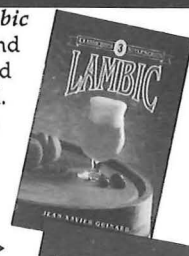


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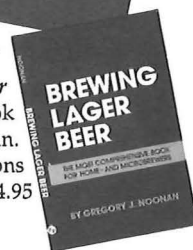
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A Brew Dream Fullfilled

By Steve Klover



I'm sure you've wondered what it would be like to brew your own favorite recipe in the big brew kettle behind the glass at your local brewpub. What homebrewer hasn't? George Hannah, owner and president of the Oasis Brewery in Boulder, Colo., and Bill Sherwood, the master brewer, provided that opportunity.

George and Bill decided to feature the wheat beer of a local homebrewer at the brewpub. Hop, Barley and the

Ale's, the Boulder-area homebrew club, arranged an informal competition to select the new Oasis brew. The winner would be invited to brew and serve the beer at the Oasis. My beer, an American wheat, was selected.

I met Bill at the brewery at 7:30 a.m. to brew a 10-gallon test batch of my American-style wheat. Bill had already begun a mash in the seven-barrel (217-gallon) lauter-tun for a batch of his Tut Brown Ale. He took me to the grain

storage and grinding area adjacent to the brewery, handed me a bucket, pointed out the grains and pulled out a scale. After weighing and grinding the grains, we proceeded through the brew room, past the fermenters and down a spiral staircase into a rather narrow basement. This small space was amazingly well utilized, housing a keg washer, beer filtration system, 600-gallon hot water storage tank (pumped upstairs as needed for mashing, sparg-

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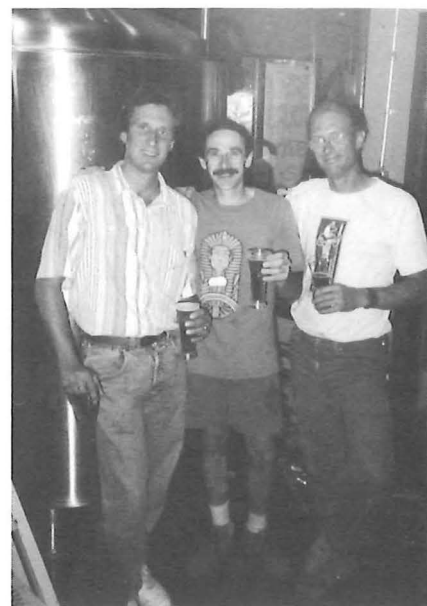
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ing, etc.), glycol wort chilling system, walk-in cooler containing 10 seven-barrel serving tanks and Bill's amazing self-designed four-station, single-operator bottling line.

In the only available space, under the spiral stairs, sat the pilot brewing system. (A propane Cajun cooker, modified beer keg boil pot, picnic cooler mash and lauter-tun and a copper tubing counterflow wort chiller.) Bill and I were going to brew two 10-gallon test batches in the basement, (my wheat beer and one of his experiments, a British bitter) while Tim was upstairs brewing two seven-barrel batches of brown ale.

Bill asked me to sparge the grains into the boil pot while he went into the cooler to mix up some Irish moss for the big batch upstairs. In the meantime, Eric and Pete showed up and began bottling beers.

The boil pot on the cooker came to a rolling boil and Bill outlined the hop schedule. After the flavoring hops were thrown in, Bill came down with his bitter recipe and asked me to weigh out the grains. While I was weighing and grinding, he was taking gravity measurements on the first seven-barrel batch



Steve Klover, Tim Mason and Bill Sherwood at the Oasis Brewery, Boulder, Colo.

PHOTOGRAPH BY CHRIS DAILY

upstairs. As soon as we started mashing the grains for the bitter, it was time to cool the wheat wort and run it into carboy fermenters. Tim was finishing his first batch.

And so it went, fast and furious. We finally finished the four batches by about 5 p.m. I helped scrub everything that wasn't nailed down in the brew house. When I finally left at 6:30 p.m., Bill was filling kegs for an order he had just received and Tim was scrubbing the lime scale out of the boil kettle.

I felt a real sense of accomplishment as I drove home that evening, but Bill deserves the credit. He seems to have a clock and a master schedule in his head so he can keep track of 10 seemingly unrelated things at once.

We met again a couple of weeks later to brew seven barrels of the wheat beer. We racked, carbonated and sampled the test batch. We decided that it finished too low (1.004), and was a bit too dry, bringing out too much of the hop bitterness. Bill said he would keep an eye on the "real" batch and try to finish it at about 1.012.

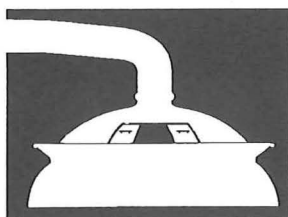
Bill and Tim helped grind the grains and begin the mash. The only thing on the agenda was to brew the seven-barrel batch and rack it over to the fermenter that contained 25 gallons of furiously fermenting yeast and wort. (Bill decided to use the same yeast I used for my beer, a Wyeast high-temperature lager yeast, so he had a starter going in the fermenter).

The pace on this day was much less demanding, so we had more time to talk. Bill and Tim answered my endless supply of questions, taking the time to explain every step of the process and how all the equipment operated. The tremendous wealth of knowledge I obtained from these men was due to their patience and willingness to share information.

Maybe your club can work out a similar arrangement with a brewery near you. As for me, I no longer have to wonder what it would be like to brew my own favorite recipe in the big brew kettle behind the glass.



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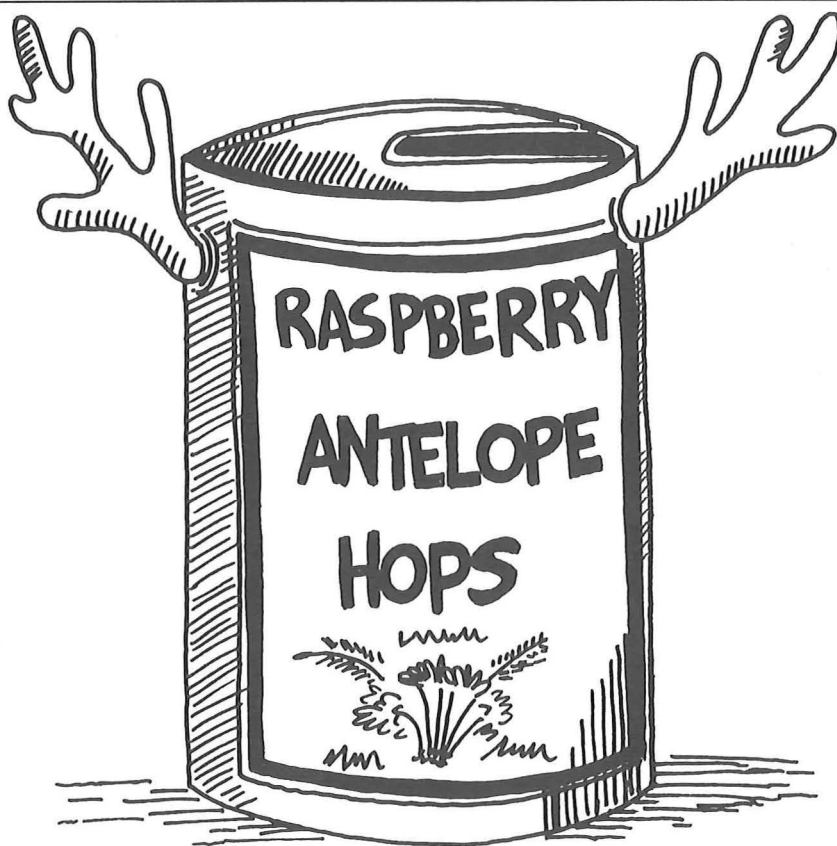
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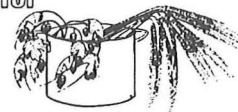
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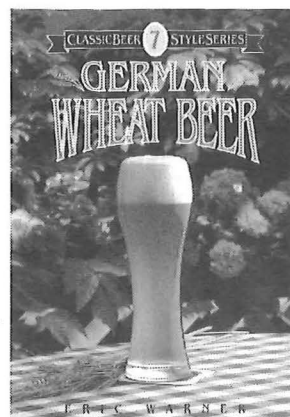
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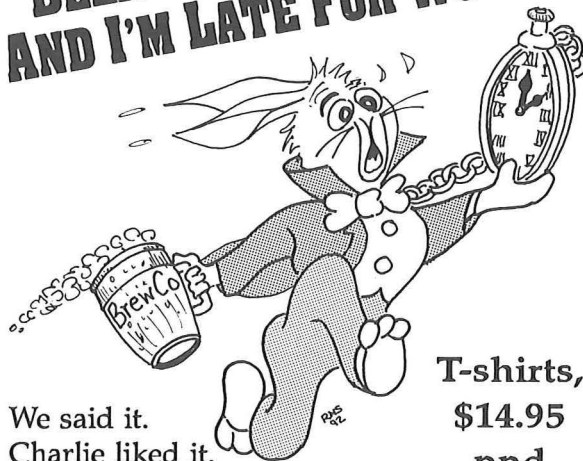


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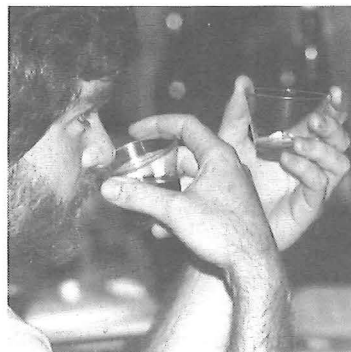
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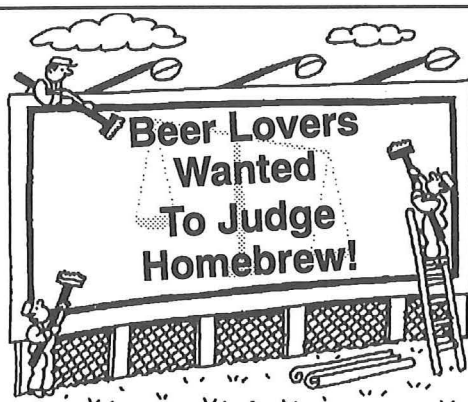
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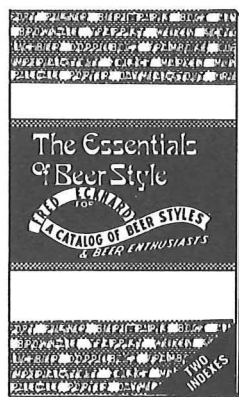
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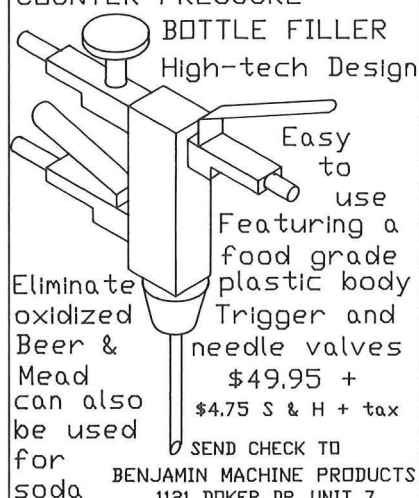
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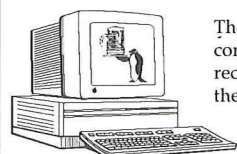
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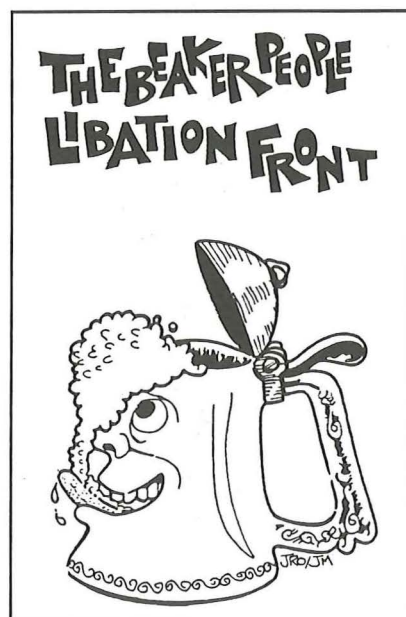
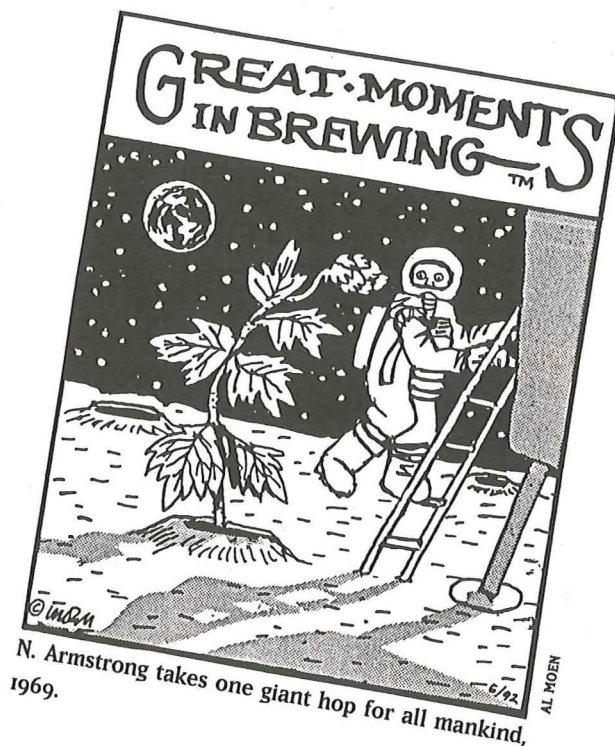
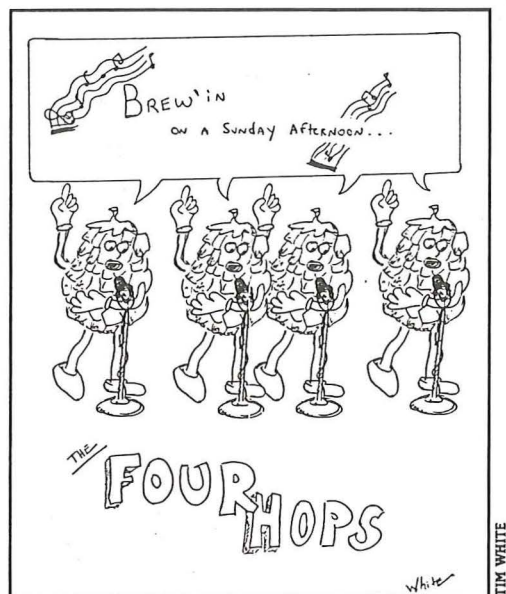
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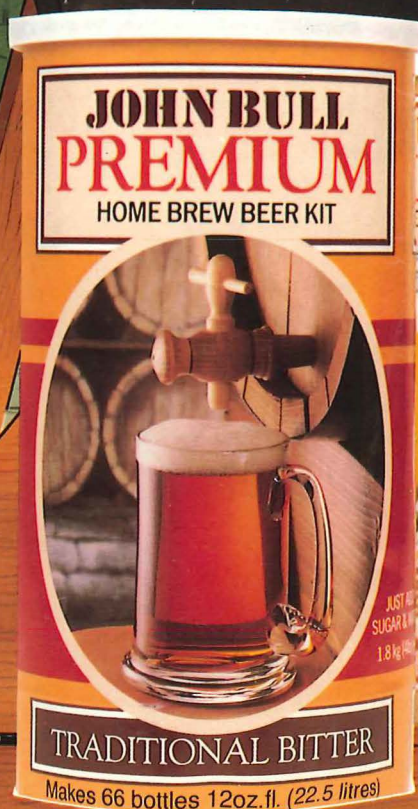
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Traditional Bitter

Barley Wine
Dry Lager

Export Pilsner
Lager
Canadian Recipe Ale

PAINE'S
MALT LTD
ST NEOTS HUNTINGDON
CAMBS. PE19 1BN

REAL TASTE!



- Simple brewing method.
- Top quality flavour.
- Great Value



Coopers Beer Kits and Pure Malt Extract are produced from selected two-row barley that is graded and then malted. The malt is crushed, mashed in with water, the extracted liquid boiled, cooled and then concentrated to approximately 80% solids.

Contains only 100% malted barley. No additives or preservatives are used in this process.

For more information, call now! Imported for Canada and the U.S.A. by

CONSOLIDATED BEVERAGES

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