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Vol. 21 No. 1 Spring 1998 Published by the American Homebrewers Association

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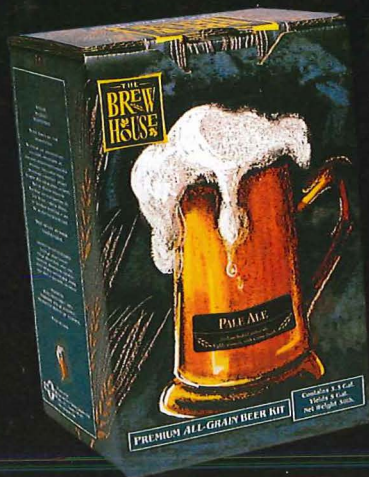
3. Remove and discard grains and boil
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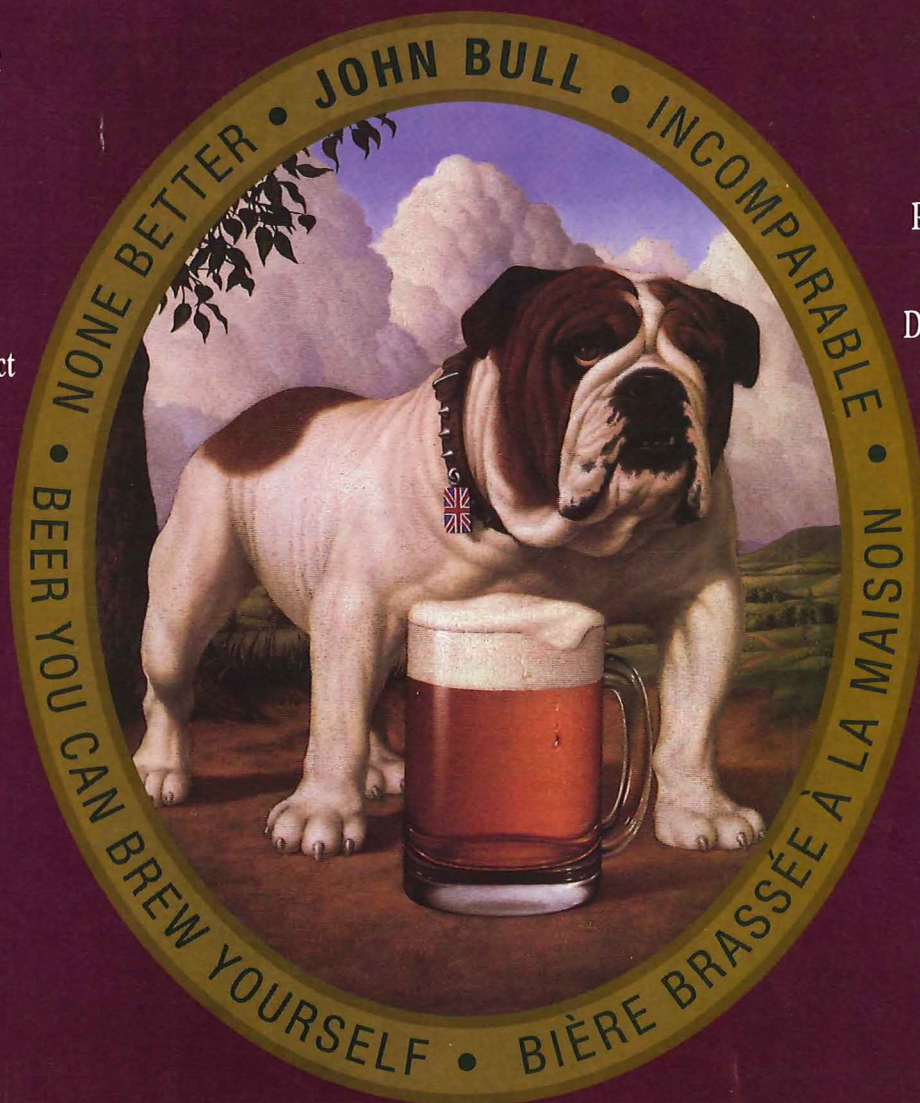
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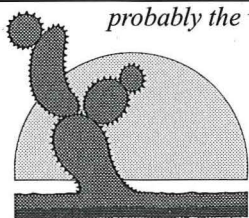
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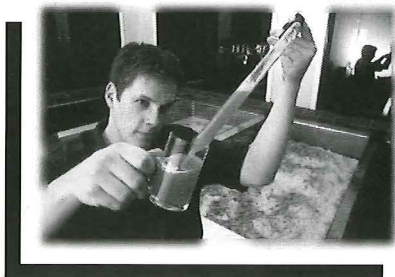
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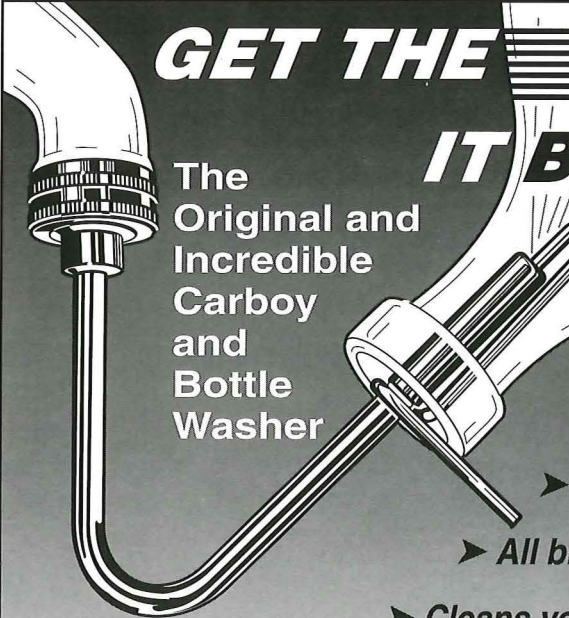
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IT'S THE BEER TALKING

Jim Parker

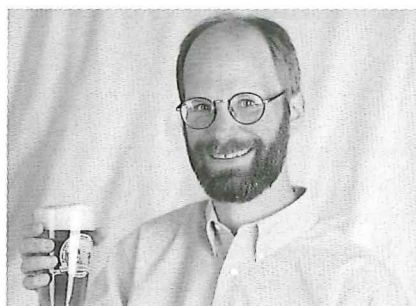
After almost seven years, I've recently gotten back into entering and judging homebrew competitions. I won't lie about my reason for stopping entering: I never won. And I was getting tired of the "Nice beer, but doesn't fit the style guidelines" comments. So I quit entering and comforted myself with the fact that I liked my beers and my friends liked my beers.

Having come to that conclusion, it was fairly easy for me to decide to stop judging. I told myself—and anyone who would ask—that I didn't want to become "one of those kind of beer geeks." You know, those "style Nazis." "The only judging I do on a beer," I'd proudly say, "is whether I want another."

Of course, the honest answer as to why I quit judging is that I realized if I didn't want to brew to meet style guidelines, I shouldn't be judging others on how well they did the very thing I wasn't willing to do. Besides, to tell the truth, I never really enjoyed judging. I often found myself paired with someone more eager to pontificate on how they'd brew a particular beer style than discuss the relative merits of the beers at hand. And, back in those days, the beers weren't always stellar examples.

That attitude was defensible while I was a beer writer. It held water when I was a pub owner. It even worked when I was a brewer in a brewpub, where homebrewers are often viewed as "informed terrorists," as one fellow brewer once told me. But once I made the decision to join the AHA staff, I knew my days of avoiding competitions were numbered.

I got my judging feet wet again during a trip to Japan to teach beer evaluation classes with Ray Daniels and Steve Hamburg. We judged several beers to show the class the process, but these were commercial beers I was very familiar with. I'd drank nearly all of them before and had served many of them in my old pub. Heck, it was like describing some old friends to new acquaintances.



The real test came about a month later when Louis Bonham invited me to attend the Dixie Cup down in Houston. Little did I know that when I made the obligatory offer, "Is there anything I can help with?" I'd be handed a stack of score sheets and get sat down at a table with a flight of imperial stouts.

But you know what? It went well. I had a blast and when I was done with my first flight, I asked for more. I judged Oktoberfests and bitters and would have gladly done more but we ran out by that point.

So why the big difference? What happened during those seven years? I'd like to credit my own personal growth and more mature

approach. But that would be a big load of hooley. The fact is that it's not me that has matured. It's the hobby. Homebrewers these days are, in general, much better than they were when I started back in the mid-'80s. And so are the judges. On each panel, my fellow judges took great care to review style guidelines before starting, and limited their comments to constructive criticism—and praise.

Here at the AHA, we're going to will focus our efforts on beer education with our Brew U program. We are at work now compiling the beginner's self-study course, which will serve as outreach to the beer enthusiast crowd. The intermediate series will focus on flavors, desirable and undesirable, their causes and beer evaluation. Our hope is that someone finishing the Brew U intermediate course will be well-prepared—and fired-up enough about judging—to take the BJCP exam.

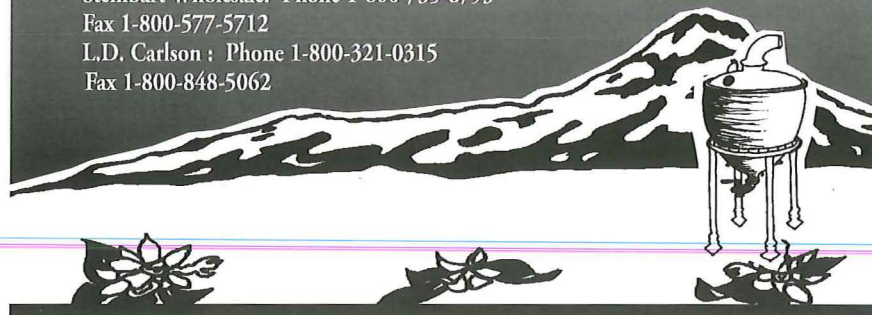
Oh yeah, and those competitions I entered. I still didn't win...but I've got this American barleywine that, like my judging, is starting to come of age.

Jim Parker is the director of the AHA. 

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DEAR

Z Y M U R G Y

Our Readers

Food Snobs

Dear *Zymurgy*,

I have been a subscriber to your fine magazine for many years and always looked forward to its arrival. Lately, however, I have been disappointed with the homebrew cooking column.

Upon reading the latest column, I was struck with the realization that perhaps homebrew connoisseurs have fallen into the same trap that wine snobs did decades ago, that of creating increasingly complex recipes to justify the quality of the beverage as an ingredient. Please do not get the impression that I am advocating recipes for meatloaf and mashed potatoes, but be aware that many fine cooks read this section, and I'm sure say to themselves that of all the recipes listed since the column began last year, they may, perhaps, someday, make one or two.

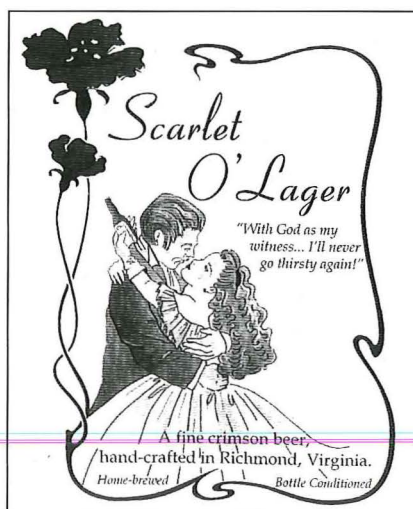
As part of a recent brewpub review for my club newsletter, I commented upon the fact that the menu was refreshingly non-trendy, without such scurrilous items as kiwi salsa, a dish I invented to show how ridiculous the brewpub menu has become. I must admit to having a good laugh over the recipe for papaya-mango salsa, but then I was struck by the thought that perhaps *Zymurgy* has gone a little over the edge. Has the recent survey indicated that only gourmet chefs cook with homebrew and other fine beers?

A suggestion I would like to make is that perhaps a future issue can contain a few ordinary recipes for those of us who enjoy cooking with different styles of beer and pairing beer with food but do not like to have to cross-reference our shopping lists. I personally do not enjoy reading recipes that are too trendy

to be taken seriously. To me, finding a homebrew to compete with jalapeno peppers, tropical fruit and cilantro is pointless. I would use a cheap commercial beer, since the subtlety would be lost, much like mixing single malt Scotch with coke. When I say I would like to see ordinary recipes, I don't mean boring—only accessible. For instance, it would be nice to see an issue devoted to recipes that could be prepared using ingredients available in a standard medium-sized, rural, grocery store, using standard techniques that do not need lengthy explanations. Examples of this type of recipe that you have printed in times past include homemade lambic-sourdough bread and cider-steamed mussels.

Thank you for allowing me the opportunity to express my concerns and suggestions and I am looking forward to many fine issues in the future.

Yours truly,
Carol B. Mash
President, Delaware Valley Draughtsmen
Whitehouse Sta., New Jersey



Gosh Carol...some of our best friends here at the AHA are kiwi salsas...Okay, point well taken. A friend once marinated a couple of steaks in about four fifths of Jack Daniels, and the only difference that "name" whiskey made was in my friend's wallet. As a cooking school graduate myself, I agree with you—Ed.

Bubble Bubbles Toil & Trouble

Dear *Zymurgy*:

Hops are my favorite component of brewing because of all the favors and ways they can be utilized during the process. I have already digested the new special issue (*Zymurgy* Special Vol. 20, No. 4) and enjoyed it very much especially since I just harvested hops from my garden for the first time. The issue is fairly "tech", but I have a science background so I can appreciate cis and trans isomers of alpha acids. The Charlie and the beanstalk picture really cracks me up!

My motivation for writing comes from other illustrations in the issue. The persistent pictures of frothy glasses of beer in *Zymurgy* make me smack my lips (yum yum), however, when I got to page 50, immediately something didn't seem right and after pondering for a few seconds I realized the froth on those beers isn't beer foam. It's soap bubbles! Yuck, how unappealing! I am somewhat amused when advertisers fake up, or have misinformation in their ads such as the shaving cream beer mustache on page 63, or the illustration of wheat when 100% barley malt is being advertised, but when one of your own articles is faked I think it loses impact.

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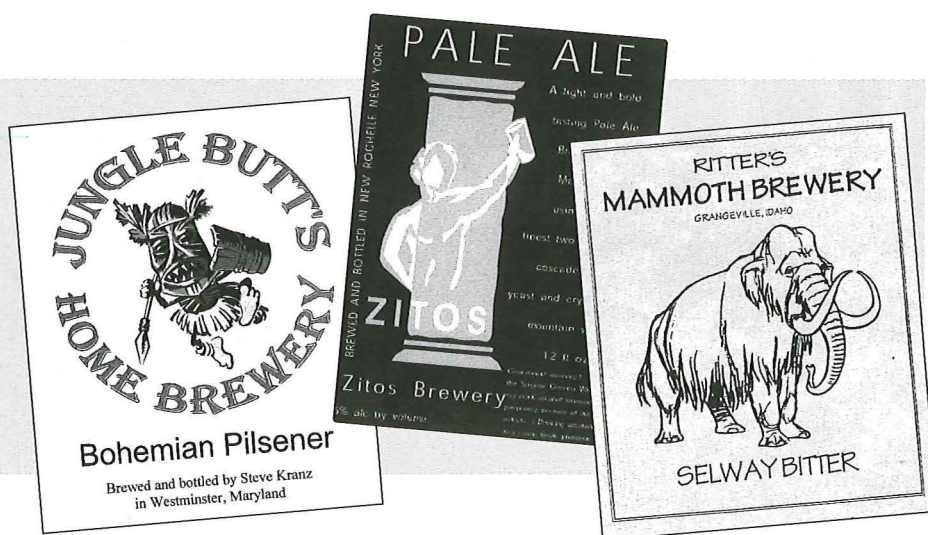


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Sort of like the Milli Vanilli thing (faked singing at concerts) if you are familiar with that. The real problem is I just can't get the thought of drinking beers with soap foam instead of beer out of my head.

Regardless, keep up the good work and Happy Brewing.

Blair Goates
via e-mail

From the art department: We always appreciate reader interest in the artwork in Zymurgy. We try very hard to photograph beer in its real state—the beer foam is real, believe it or not!

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Brew House Clarification

Dear Zymurgy,

Thank you for your review of The Brew House all-grain wort kit in the Fall 1997 issue, "The Best From Kits" of *Zymurgy* (Vol. 20, No. 3). We are very excited about the U.S. launch of this product, and feel that the reviewer generally provided a good description of the kit, its use and its characteristics.

There is, however, misleading information in the article that I would like to bring to your attention. The Brew House wort kit should not be included in the descriptions of hopped extract kits or put in the same category as kits containing concentrated wort. The Brew House wort kit contains no extract and is not concentrated—it is aseptically-packaged all-grain wort.

We would like to clearly convey to end-users that the product is all-grain wort—not extract, not concentrate. We free that it is important to stress that The Brew House is different from all other kits on the market and are concerned that the unique nature of the kit was missed in the information in the fall issue of *Zymurgy*.

Tim Vandergrift,
Technical Services

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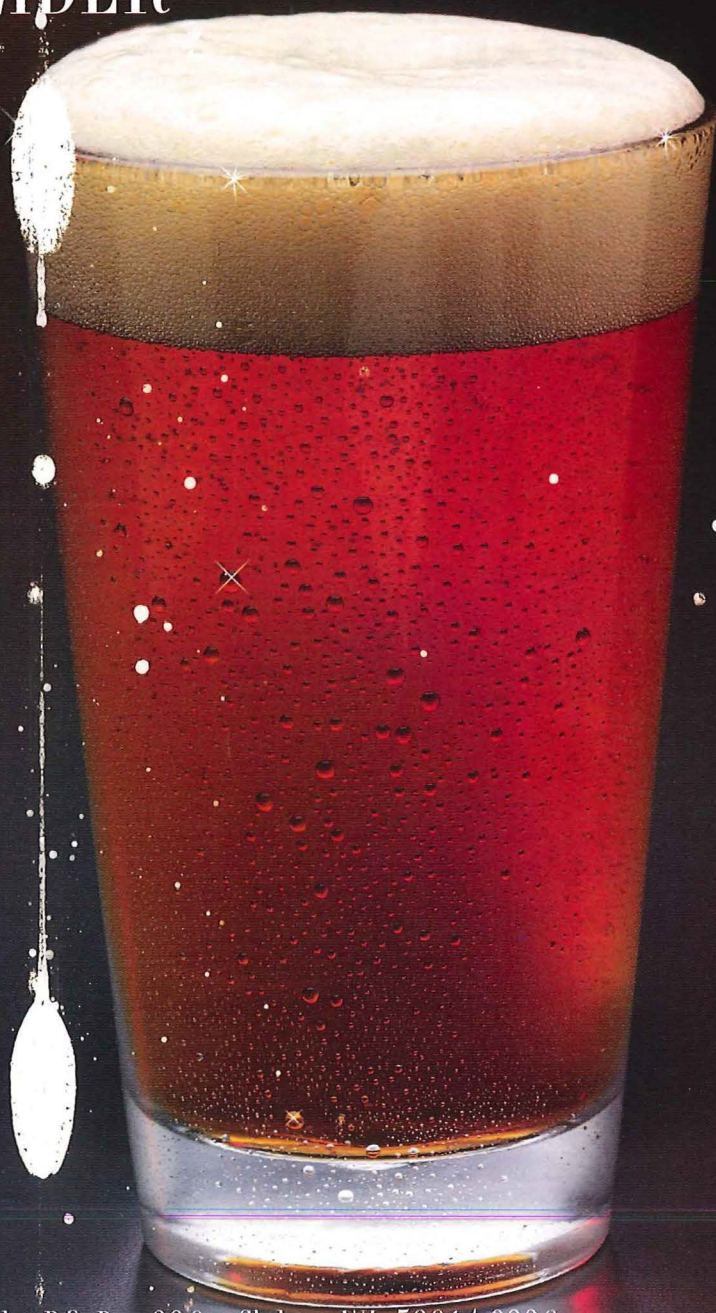
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BREWNEWS

Amahl Turczyn

HEADLINES



Mail In The Ale

At the Dallas/Ft. Worth post office, junk mail is beginning to build up—500 tons of the stuff accumulate there every month. The solution? Beer! As an experiment, the post office is sending the junk mail to a local composting company, where it is shredded and mixed with stale beer (the brand, unfortunately, is as yet unknown), wood chips, vegetable matter and animal manure. Bacterial decomposition then transforms the mixture into a high-grade garden compost in less than three months. So rather than washing the dog with that next funky batch of homebrew, try unleashing it on your junk mail bin! It may not smell so good, but it beats the heck out of taking up landfill space. (ALExaminer, ALE Brews Gram #47)

Swiss Court OKs Hemp Grown for Brewing

Following the legal action against a commune by a magistrate in the canton of Valais, Switzerland's highest court ruled that Swiss who grow hallucinogenic plants to make beer or other legal products cannot be prosecuted under drug laws. According to the Real Beer Page, the magistrate seized

8.5 tons of Indian hemp from the commune, which claimed that it used the crop to fill industrial orders, including one for 1,100 pounds of dried hemp blossoms from a brewery specializing in hemp beer. Following the Swiss court's ruling in the commune's favor, the blossoms can now be released to the brewery on confirmation that it had indeed placed the order. The brewery must also provide assurances that the crop will be used only to brew. (RBP Mail 4.01, January 1998)

More Health Benefits for Beer Drinkers

Worried about tooth decay after drinking beer?

Relax! Recent studies have confirmed that the sugars and carbohydrates in beer

are not of the type used by oral bacteria harmful to teeth. In fact, since it's a hostile environment to bacteria, beer may actually discourage tooth decay. You probably knew that beer is relatively free from heavy metals, nitrates and harmful bacteria, but did you know that iso alpha acids may help prevent osteoporosis, a disease that causes brittle bones in the elderly? Research continues to support that daily, moderate consumption of beer, especially unfiltered, unpasteurized homebrew, does a body good. (Various sources)



THE BIG WORLD OF BEER

Beer-of-the-Month Club Starts in Germany

Germany will get its first Beer-of-the-Month club this May. The "Haus der 131 Biere," a Hamburg-based importing and distribution company, will also have a monthly newsletter for its club members describing the two new products they'll receive every month, including a description of the brewery that produces them. The publication will also include news from the international brewing scene. Though such clubs are quite popular in the US, "Haus der 131 Biere" is only the third club of its kind in Europe, the others being in Madrid and Luxembourg. (*The World of Beer*, No. 22, p.67)

TECHNOTES

Fighting Oxidation with "Oxy-Caps"

Many of us realize that a certain amount of oxygen is absorbed by finished beer, no matter how sophisticated our equipment is. Even the pros with the best equipment will fill bottles with beer already containing 50 ppb of oxygen, and then allow another 440 ppb to enter at fill-



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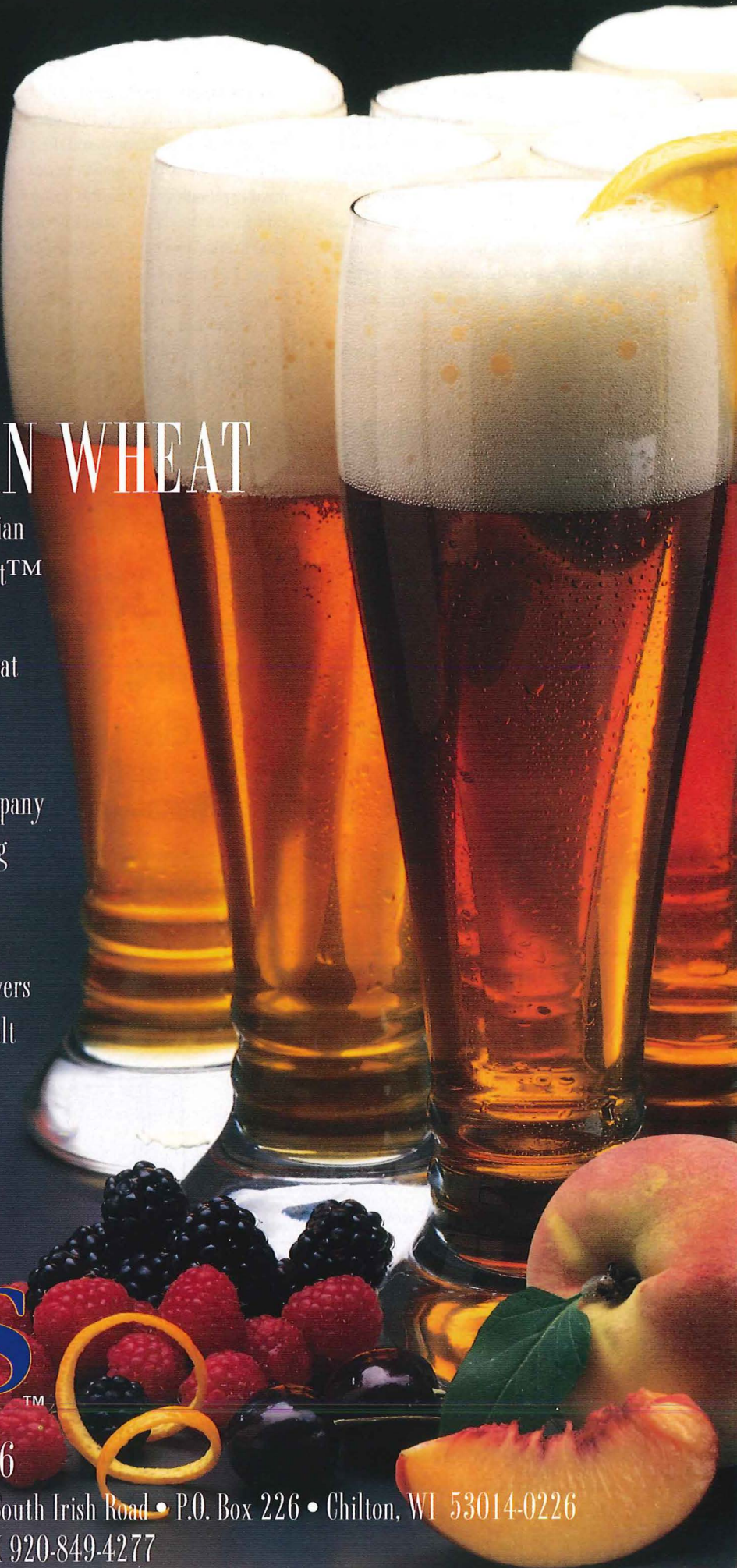
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ing. Homebrewers, obviously, allow quite a bit more in. Oxidation is just something brewers, both home and professional, have to live with. Many affordable counter-pressure bottle fillers allow brewers to pre-evacuate bottles, or replace the air in them with CO₂. For those with a lot of time and patience, a slow, delicate fill is also a great way to reduce oxygen uptake. But once you've taken all these steps, and the cap is on, don't bet the beer is safe.

Along with the minute amount of oxygen in the headspace, studies have shown that

a surprisingly ample amount of oxygen enters sealed bottles via the minute space between the metal crown and the glass rim. Metal and glass, obviously, are not gas-permeable membranes, but the lining material that forms the "seal," usually made from PVC these days, is. A PVC-lined crown will allow 750 ppb of oxygen in three months, and 2,000 ppb in eight months, to enter the bottle. But, you're asking, if the lining material is gas permeable, why don't bottles go flat? And how does air at one atmosphere

outside the bottle force its way into a headspace of three or more atmospheres inside?

Well, here's where it gets a little tough. The driving force through a membrane is not determined by the total pressure of combined gases on either side of the membrane. Rather, it's determined by the partial pressure of a particular gas. Here's an over-simplification to clarify: if, on one side of the membrane, you have atmosphere A made up of 20 percent oxygen, and on the other side, you have atmosphere B with 15 percent oxygen, even if the total pressure of B is double or triple that of A, oxygen will flow from A to B. This phenomenon is shown by the following formula:

$$\text{permeability} = \frac{P (A + \Delta p)}{L}$$

P is the permeability coefficient. It is determined empirically for a specific polymer compound and is specific to the gas and conditions of the test.

A is the area of the compound surface involved in the transfer.

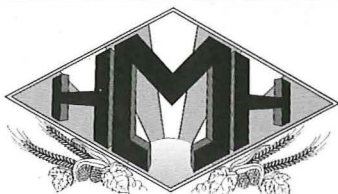
L is the length of the path that gas must follow.

p is the driving force. As mentioned above, it is the difference in the partial pressure of the specific gas on either side of the liner.

One company, Zapata Technologies, has come up with a crown cap that not only greatly reduces the amount of oxygen ingress, but also absorbs oxygen from the headspace. By mixing materials that react with molecular oxygen into the PVC liner material, the cap, like the beer, becomes highly oxidative—this process is activated by moisture. Zapata claims that a bottle crowned with a PureSeal® cap will approach zero oxygen in 10 to 14 days and can maintain that level for up to a year.

These caps have a shelf life of six months from the time they are manufactured, and obviously must be kept dry until just prior to use. Boiling them for the purpose of sanitation significantly reduces their ability to absorb oxygen, so using a chemical sanitizer would be the best way to go.

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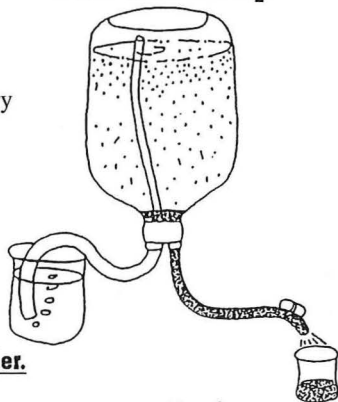
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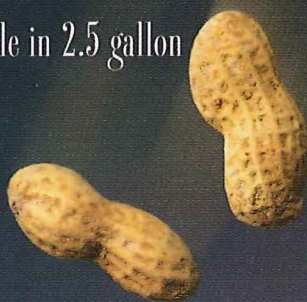
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North American Brewery List

The following information is provided by the Institute for Brewing Studies. To obtain a copy of the *North American Brewery List*, contact the Association of Brewers at (303) 447-0816. For corrections, omissions or additions, please contact David Marcati at davem@aob.org or (303) 447-0816 ext. 135.

OPENINGS

UNITED STATES

Microbreweries

California: Boneventure Brewing Co., Los Angeles; SLO Brewing Co. (No. 2), Paso Robles

Colorado: Heavenly Daze Brewing Co. (No. 2), Denver

Illinois: American Brew Works (formerly Pavichevich Brewing Co.), Chicago

Indiana: Upland Brewing Co., Bloomington

Kentucky: Pipkin Brewing Co., Louisville

Louisiana: Laughing Pines Brewery and Restaurant, Slidell

Brewpubs

Arizona: Pinnacle Peak Brewery, Scottsdale

Arkansas: River Rock Brewery, Little Rock

California: Country Club Brewery, Northridge; Dunbar Brewing Co., Los Osos; Eastern and Oriental Trading Co., Golden Gate Park Brewing Co., San Francisco; Parkdale Hang Ten Brewery, San Diego; Magnolia's Pub and Brewery, San Francisco; Sierra Madre Brewing Co., Sierra Madre; Waterfront Brewery and Restaurant, Redondo Beach

Colorado: C.B. Potts/Big Horn Brewing Co. of Westminster, Westminster; Gore Range Brewery, Edwards; Kaltenberg Castle Royal Bavarian Brewery, Vail

Florida: Sporting Brews, Weston

Georgia: Water Tower Brewing Co., Kennesaw

Illinois: World's End Brewing Co., Mokena

Kentucky: Oldenberg Grille and Brewery, Louisville

Michigan: The Library Restaurant, Bar, and Brewpub, Houghton; Quay Street Brewing Co., Port Huron

North Carolina: Two Moons Brew and View, Asheville

Oregon: Bill's Tavern and Brewhouse, Cannon Beach; Elliot Glacier Public House, Parkdale

Texas: Humperdinks/Big Horn Brewing Co. Dallas (No. 1), Dallas; C.B. Potts/Big Horn Brewing Co. Dallas (No. 2), Dallas

Washington: Snoqualmie Falls Brewing Co., Snoqualmie

Wyoming: C.B. Potts/Big Horn Brewing Co. of Cheyenne, Cheyenne

Brewery Name Changes

North Carolina: Pale Ale Brewery Inc. (formerly called Tomcat Brewing Co., Inc.), Raleigh

Correction

Buckhead Brewery and Grill is open in Tallahassee, Florida.

CLOSINGS

UNITED STATES

Microbreweries

Colorado: Pikes Peak Brewing Co., Colorado Springs; Trout Creek Brewing Co., Fairplay

Indiana: Indianapolis Brewing Co., Indianapolis

Kentucky: Jack Daniels Brewery, Louisville

Ohio: Bavarian Brewery, Maumee

Brewpubs

California: Antelope Valley Brewing Co., Lancaster; Blue Water Brewing Co., Tahoe City; Hops Bistro and Brewery (No. 5), San Diego

Connecticut: Alewife Grille and Brewery, Glastonbury

Nevada: Muddy River Brewing and Sports Pub, Mesquite

New York: Parlor City Brewing Co., Binghamton

Pennsylvania: Three Rivers Brewing Co., Pittsburgh

Contract Breweries

Illinois: State Street Brewing Co., Chicago

CANADA

Brewpub

Alberta: Red's, Edmonton (Restaurant still open)

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For those who practice bottle conditioning, the PureSeal® cap might not be the best choice, according to M. R. Rassouli, one of the designers of the device, as the headspace and dissolved oxygen is vital for the yeast to use in its bottle re-fermentation. I have experimented with using these caps for bottle conditioning, however, with no ill effects.

Two types of PureSeal® caps can be found in homebrew shops: one with a ring of liner material on the inside, and one with a disk of the stuff that covers the entire inner surface. Obviously, the disk type closures are the more effective ones, designed, apparently, for 40 ounce bottles. The ring type crowns are intended for 12 ounce bottles.

(M. R. Rassouli; *Air Ingress through Bottle Crowns*, by F. N. Teumac, B. A. Ross and M. R. Rassouli; *Oxygen Scavenger Containing Closures for Extending Shelf-Life of Packaged Foods and Beverages*, by Fred N. Teumac, Ph.D.; *MBAA Technical Quarterly*, Vol. 27, No. 4, pp. 122-126)

Increased Pitching Rates

In a study conducted to investigate which yeast slurry pitching rates are the most effective, one batch of wort was divided between four 10 bbl fermenters and pitched with the following yeast concentrations: 12.8, 30.3, 53.8, and 74.9 million viable cells/mL. This corresponds to a range from half to almost four times the rate, respectively, normally used in high-gravity lager fermentations.

Unsurprisingly, the higher pitching rates took increasingly less time to ferment out, with a reduction of approximately two hours per additional million cells/mL pitched. Relative growth rates of yeast were also predictably higher for the lower pitching rates; the half-normal rate saw a six-fold increase, whereas the triple-normal rate saw only a two-fold

growth rate. Interestingly, the net yeast growth for each fermentation remained fairly constant at around 60 million cells/mL—with the lowest pitching rate, the fewer cells had to work harder to increase their numbers, whereas the largest pitching rate's cells had less work to do, but the net result was the same. From this, it's easy to understand why viability was so much better in the lowest pitching rate: 90.2 percent for the half-normal rate as compared with 85.9 percent for the triple-normal rate.

Higher pitch rates also resulted in lower IBU and ester levels, possibly due to the more vigorous fermentations either scrubbing them out with CO₂ or removing them as they adhered to yeast cell walls. There were also higher residual FAN (free amino nitrogen) levels for these higher pitching rates, meaning they exhibited lower FAN utilization—this was speculated to be the result of increases in yeast autolysis. Sensory evaluation of the lower pitching rate beers showed higher hop and fruity aromas in the finished products.

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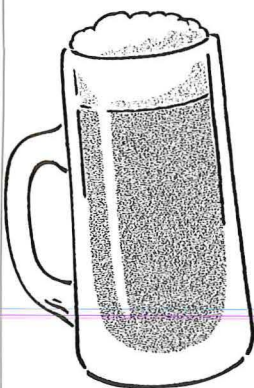
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For homebrewers, overpitching higher gravity beers is difficult to achieve, but bear in mind it is possible. Pitching too much yeast, basically, is better than not pitching enough. Your primary concern pitching a very large amount of slurry will be autolysis, decreased yeast viability and perhaps a lower level of aromatics. Remember, lager fermentations require about one million cells/mL/degree Plato, and ales require roughly five to 10 million cells/mL. (*MBAA Technical Quarterly*, Vol. 33, No.1, pp. 30-32, Bob Jones)

Travels In Wallonia

My travels to Belgium during December of last year gave me a unique opportunity to review *The Beers of Wallonia*, by John Woods and Keith Rigley, as it really is intended as a travel guide for beer enthusiasts going to that specific region. As such, the book is remarkably useful.

The authors include in their introduction notes on the history of Wallonia, maps of what languages are spoken where, as well

as where the breweries are (particularly useful when planning a trip there so that you tailor your visit to which beers most appeal to you), and lots of more general background information about the region's brewing scene. Also in the introduction are examples of two great brewing traditions of Wallonia: the artesanal brewers and the Trappists. For the first, the authors' example was Brasserie à Vapeur, a prime example of the small yet proudly traditional breweries making a wonderfully unique variety of beer for centuries. For the second, there is a brief, but well-focused, history of monastic brewing, and how it has evolved to what it is presently. Descriptions of actual visits to the six Trappist breweries are reserved for the notes which precede each chapter.

Each chapter also includes very thorough tasting notes of the principle products of each brewery, photos of both the brewery, the labels from reviewed products, known ingredients for each brew, and a rating. The tasting notes are really this book's forte—no brief, opinionated synopses like those found in other beer guides, but extensive, thoughtful descriptions divided into appearance, nose, palate, finish, overall and a section for anything else of interest.

Also in each chapter are contact information, vital brewery statistics like annual output, and even directions to the site. This last detail was of particular use on my trip, as many of the smaller breweries would have been nearly impossible to find.

Another detail I liked about the book was that the authors took the time to ask each reviewed brewery what their favorite beer bars were, and recommended beer shops.

Woods and Rigley have done a huge service to Belgian beer appreciation with this guide. Though it is by definition a very location-specific book, there are enough painstakingly detailed reviews of classic Belgian beers to make it a worthy addition to any beer lover's library, whether or not they plan to travel to Wallonia. If you do plan to go, this guide is a must. This is attested to by the fact that while I was there, nearly every brewery I visited in Wallonia had or sold copies of it!

AHA Project Coordinator Amahl Turczyn recently returned from a beer tour of Belgium and hopes to recover soon.

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Create me by adoption, your own son.

In hope that you'll comply

That my glass should ne'er run dry

Nor me darlin' little cruiscin lan.

—Cruiscin Lan sung by The Clancy Brothers

Now, before you make any judgments based on my obviously non-Hibernian surname and question whether I should be giving instruction on how to make Irish corned beef, let me explain. Rezac is, in fact, a Czech name. More accurately (and a source of considerable pride), it's Bohemian. However, my maternal and more recently emigrated side of the family is 100 percent Irish. My grandfather and grandmother "came over on the boat" from Bunrana and Clonmany, County Donegal, Ireland, in 1919 and 1921, respectively.

But to say that I'm "Irish" is likely a misnomer. When the Irish came to "Americay," their culture, traditions and holidays changed so much that their descendants evolved into their own identity, that of Irish-Americans.

Corned beef is one of those traditions that's unique to the Irish in America. In Ireland, you aren't very likely to see corned beef (or green beer) served on St. Patrick's Day. (Which, by the way, is more of a religious day of obligation in Ireland.) The popularity of corned beef occurred in the U.S. among Irish immigrants who couldn't afford the better cuts of meat. By corning (pickling) for days, then boiling for hours, they could turn the lesser cuts of meat into a remarkably enjoyable meal. What follows is more than a recipe—it's part of my personal Irish-American tradition.

Every year, this tradition starts with "the call". About two weeks before St. Patrick's Day, I call my mother to ask her for her corned beef recipe. Recognizing the first part of our annual custom, she laughs and settles into the closest kitchen chair. Despite knowing full well that I know the recipe by heart, she begins her deliberate recital once more. By the smile in her voice, I feel her pride in the enduring tradition as she recounts every small detail of the recipe. This is truly where the recipe begins. It's our tradition, and it's important. You probably should call your mother now.

IRISH CORNED BEEF

- 1 lb beef brisket per person (.45 kg)
- 26 oz salt (737 g)
- 4 oz (113 g) pickling spices per 10 pounds of beef (4.54 kg)
- 1 potato, for floating
- .25 cup brown sugar (59 mL)
- 1 cup Guinness (237 mL)

First, you need a big pot. Making corn beef is the only thing that I use my brewpot for, other than beer. Of course, you'll need



to clean the pot well before you brew with it again, or face the greasy consequences.

As for the cut of beef, I use beef brisket, as do most people. It's relatively inexpensive and contains a good bit of fat. My mother uses London broil, which is more expensive and doesn't contain as much fat. Having used different cuts of beef, I recommend a cut that is relatively fatty.

Put enough water in the pot so that it will cover the meat once it's added.

Add salt to the water, enough so that a raw potato starts to float. You will actually

notice the potato becoming buoyant but be prepared, it does require a lot of salt—most of the salt carton, in fact.

Add the pickling spices to the water. About two ounces (57 g) per five to seven pounds of beef is sufficient, but no more than two 4-ounce (113 g) jars per pot. (This is not an exact science here, folks).

Place the beef into the water, again making sure that the water covers the meat.

Cover the pot, put it in the fridge for 10 days, turning the meat every three to four days.

On St. Patrick's Day, or the day of serving, take the pot out of the fridge. Drain almost all the remaining water, saving a little of the water and spices for the cabbage and potatoes. Fill the pot with fresh water until the meat is covered again.

Uncover the pot and bring the water to a boil. Then turn down the heat, cover the pot and simmer for three hours.

After the three hours, take the meat out and place it in a baking dish. Let it cool for 20 minutes.

Slice the meat into inch-thick slices.

Spread a mixture of brown sugar and Guinness over the top of the meat.

Cover the baking dish (and meat) with tin foil.

Bake at 325 to 350 degrees F for 20 minutes, taking the tin foil off for the last 10 minutes.

Serve, preferably with Guinness or a good homebrewed stout. Please, DO NOT serve with green beer. Actually, please DO NOT ever serve, make, dye, order or drink green beer. We must have standards!

CABBAGE & POTATOES

I have found that it is best to cook these separately. Someone, inevitably, will not like one or the other. However the directions are the same for both.

Quarter the cabbages (or potatoes). Put them in a pot. Add a little (a cup to a pint) of the water that the meat was coming in. Top off with fresh water, enough to cover the cabbage (or potatoes). Boil for 40 minutes. Test for doneness. If not done, boil some more. Drain. Put a little butter in and serve.

OTHER SIDE DISH SUGGESTIONS

A green vegetable. (At my house, peas.) Turnips with bacon and onions.

Happy St. Patrick's Day!
Slainte!

Brian "Really, I'm Irish" Rezac is the Administrator of the AHA, when he's not locked in the kitchen.

FEATURES:

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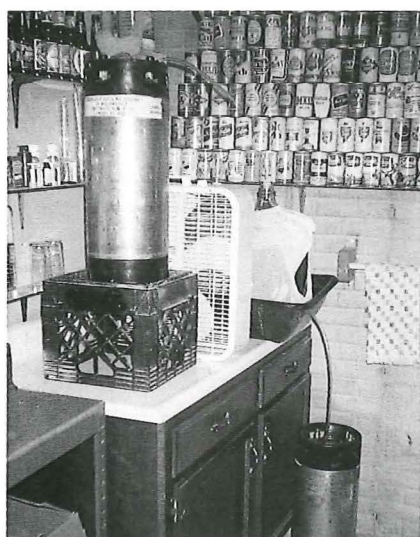
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TIPS & GADGETS

Our Members

The Poor Man's Refrigerator



I created a poor-man's fermentation refrigerator. It is gravity fed with a siphon and, through evaporation, cools my summer fermentation temperature from 76 to 67 degrees F (24 to 19 degrees C). This puts it squarely in the optimal ale fermentation temperature range. The siphon hose contains two small holes cut just above each keg, which drip onto the cotton T-shirts in front of the fan. The blowing fan evaporates the water and cools the carboys. The end of the hose is stopped with a small wooden plug carved from a piece of pine.

I used black electrical tape to plug the numerous holes that were cut during experimentation. The upper tank is refilled by simply exchanging it with the full lower tank twice a day during the primary fermentation process. The fan stays turned on high throughout this period.

Andy Kramer, Lincoln, NE

How About a Walk-In?

Your own walk-in cooler? This idea is not as far-fetched as it sounds. If you have a six-by-six or six-by-nine foot space available in your garage or basement, you might consider this alternative. If you do decide to take on such a project, I suggest you consult with someone in the refrigeration business who can help you locate components and give advice on the construction of the enclosure and installation of the refrigerating equipment. Here are a few general guidelines:

The Box: Commercial walk-ins are usually constructed of pre-fabricated panels consisting of rigid foam insulation wrapped in an aluminum or stainless-steel skin. Bought new they are quite expensive but dealers in used refrigeration or food service equipment may offer used panels as a more affordable alternative. You can also fabricate an enclosure using common construction materials. A simple stud-wall enclosure insulated with two-inch rigid polystyrene foam insulation panels will be inexpensive to build and have an acceptable R value. For access, a commercial-grade freezer door can be installed, or insulation can be added to an exterior door.

Whatever the construction, it is important that the enclosure be made essentially air-tight to prevent infiltration of warm, moist air. If that happens, condensation and energy consumption will be excessive. For pre-fabricated panel construction, make sure the panels are securely joined, and all joints are sealed with silicone caulk. Pay special attention to the door gasket and seal all cracks around the jamb with silicone caulk. If you've built your own walls install a vapor barrier of plastic sheeting outside the insulation layer to prevent condensa-

tion from forming inside the insulation. If this happens, the R value will be reduced and you will probably have problems with mold.

The Cooling Unit: For capacity, you will need about 75 to 100 BTU/hour per square foot of floor space, assuming an eight-foot ceiling. For example, a seven-by-nine-foot cooler will have 63 square feet of floor space, requiring about 6300 BTU/hour (about one-half ton) of refrigeration.

The simplest option for the cooling unit is an ordinary window air conditioner. If you only want to achieve temperatures in the upper 40s (°F), an unmodified unit will work satisfactorily. For lower temperatures, the evaporating temperature will likely have to be lowered, and you will need a qualified refrigeration mechanic to adjust or replace the expansion valve. You will also need to add a thermostat capable of controlling the temperature within the desired range. The Johnson Controls A-319 electronic thermostat will work fine. Just be sure to wire it for the correct line voltage (110 or 220v), and confirm that the current draw will be within the control's rating.

Most commercial installations have separate condensing and evaporating units, much like a residential central air conditioning system. The components are purchased separately, and they should be reasonably well matched. Industrial and refrigeration equipment supply companies offer new units, or check with used refrigeration and food service equipment dealers. You may see refrigeration units rated by the horsepower of the compressor, but you can reasonably assume that the refrigeration capacity in tons is numerically equal to the horsepower rating of the condensing unit. Our seven-by-nine-foot cooler example will therefore need a one-half horsepower condensing unit.

Martin Manning, Cincinnati, Ohio



The Best in Burners

Alright
now listen, baby...
You say your mum ain't home
it ain't my concern.
Just play with me
and you won't get burned.
I have only one itching desire
Let me stand next to your fire.
—Jimi Hendrix

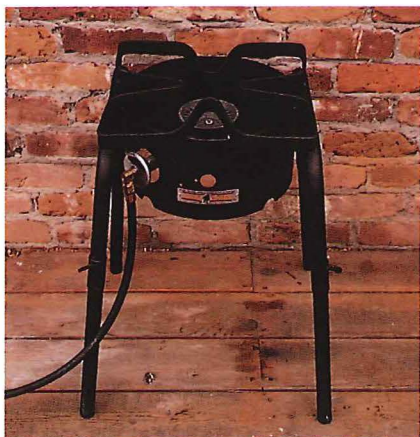
By Dan Rabin

Now listen baby. You're a homebrewer and you need heat! Lots and lots of heat! Sure, your kitchen stove was fine when you were a beginning extract brewer with a measly gallon or two of wort to boil. But that was kid's stuff. You decided to move up to all-grain brewing, and now you've got big-time gallonage to deal with. You've got mash water and sparge water to heat and wort to boil, and you don't have all day. You need BTUs (Beer, Thank U, also British Thermal Unit). So if you're getting fired up to do some serious brewing, you need to find yourself a burner or two and move out of the house. If you can take the heat, get out of the kitchen!

Now, the question is, what burner or burners will best serve your needs? For boiling large quantities of wort - at least 5 gallons (18.9 liters) for a typical all-grain batch—you're best off with a powerful high-pressure burner that will bring a lot of liquid to a boil posthaste. Your burner should also allow you to easily adjust and maintain the intensity of the boil.

If you'll be fortifying your wort by adding malt extracts, you'll want to be careful to avoid scorching. Scorching can occur when there are hot spots on the bottom of your brewpot caused by uneven heating or by applying too much heat before the extracts have dissolved. Hot spots occur when burners concentrate heat in a small area rather than distributing heat across the bottom of the pot.





Cache Cooker SH-140L

When heating mash water and sparge water, quick heating time is also desirable. Since scorching is not an issue when heating plain water, heat distribution on the bottom of your brewpot is not a primary concern. Still, if your burner tends to concentrate heat in one area, you'll have to constantly stir the water to achieve accurate temperature readings.

If you plan on using a brewpot for mashing grains, even heat distribution and precise temperature control becomes even more critical. A low, easily adjusted flame is especially important for step mashing, where you need to hit your target mash temperatures without fear of scorching and caramelizing your precious sugary wort.

For this road test, six propane burners were evaluated. We found that, while the various burners had many features in common, there were significant differences in construction, performance, fuel efficiency, and other factors that you, the homebrewer, should take into account before purchasing one or more of these units.

Alright, baby. Let's get cookin.'

Deconstructing Burners

Propane burners used for homebrewing are relatively simple gadgets, both in construction and operation. Though the physical appearance of individual burners may differ, they all consist of just a few major assemblies. The functions of these major assemblies are to 1) deliver and regulate the

flow of fuel, 2) distribute heat, and 3) support the overall structure and hold a pot. The functions and attributes of the major components of a propane burner are described below.

The Regulator-Hose Assembly

The regulator-hose assembly delivers and regulates the flow of fuel from your propane tank to the casting assembly, or, in some models, the jet assembly (see next section for discussion of castings and jets). The regulator-hose assembly consists of a fuel hose and a regulator. On some models, a needle valve is integrated in the regulator-hose assembly next to the regulator. The regulator-hose assembly attaches to the propane cylinder at one end and the casting or jet assembly at the other end.

Some units are equipped with adjustable regulators. On these units, the flow of fuel, and thus the intensity of the flame, is adjusted by turning a lever or dial built into the regulator. Turning the lever or dial clockwise increases the flow of fuel. On other units, a needle valve, mounted next to the regulator, is used to regulate fuel. Unlike the adjustable regulator, turning the needle valve counter-clockwise increases fuel flow.

Three of the units we tested were equipped with adjustable regulators, and one with a needle valve. We observed that the needle valve was more sensitive than the adjustable regulators. A small turn of the needle valve produced a much larger change in the intensity of the flame compared to the adjustable regulator.

On the other two systems we evaluated, fuel flow was controlled by a control valve mounted in front of the air shutter and was not a part of the regulator-hose assembly.

Castings and Jets

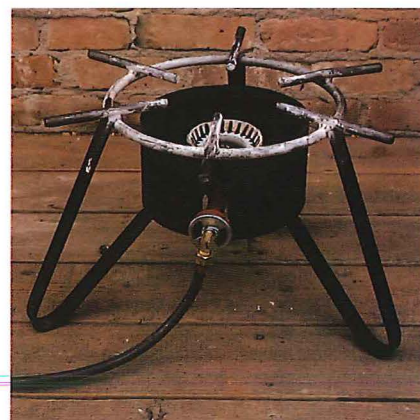
Heat is delivered to your brewpot through an element called a casting, or, alternately, through a pipe called a jet pipe. Of the six burners we tested, five employed a casting and only one employed a jet pipe for heat delivery.

Castings come in different sizes and feature an array of openings from which flames are produced. The size of the casting, and number and configuration of flame points factor in how heat is distributed to your cooking pot. Larger castings, and those with more flame points, distribute heat more evenly to the bottom surface of your brewpot than smaller castings with fewer flame points.

Of the five units we tested that employed castings, three of the units came equipped with a four-inch diameter casting with 24 flame points. The two other units had larger castings (6 and 11 inches) with more points of flame (74 and 200+).

Fuel enters the casting through a tube called a venturi tube. An air shutter is located at the end of the venturi tube where the fuel enters. An air shutter adjusts the size of an opening that allows air to enter and mix with the fuel. By adjusting the air shutter, you regulate the amount of air that is mixed with fuel delivered to the casting. As the air shutter is adjusted, the flame changes color from yellow to blue. A well-adjusted flame will burn fuel efficiently and cleanly, minimizing soot on your cooking pot. According to the documentation that came with the Cache Cooker, the air shutter should be adjusted "until a blue flame with just a hint of yellow is achieved."

One high-pressure unit we tested used the jet pipe system instead of a casting. With the jet pipe system, the flame emerges out the top of a hollow metal tube. In operation, it looks like the nostril of a fire-breathing dragon. While operating a burner, you should keep your hair, clothes, dog or cat,



FYRBREWER

and favorite body parts away from the casting or jet tube.

For die-hard do-it-yourselfers, castings and regulator-hose assemblies can be purchased separately allowing you to configure your own custom heating system. If you decide to go this route, make sure that the regulator and casting you purchase are intended to be used together.

Frames and Support Structures

The frame holds the various components of a burner in place, provides a stable footing (hopefully), and supports a pot over the casting or jet pipe. The frames of the six burners in our road test came in a variety of shapes and configurations. They are all built low, with the tops of the units sitting 12 inches or less off the ground (although the Cache Cooker comes with leg extensions that raise it to 22 inches). Since these units sit so low, a challenge exists for homebrewers who wish to employ a gravity-control system to move liquid from one container to another.

The units we tested included three and four-legged frames as well as circular base support. One burner is enclosed in, and supported by, a square box-like structure. It looks like an oversized version of the hot plate you used to burn popcorn on in your college dorm.

The various burners employ different systems for supporting pots. While most of

our test units support pots of various sizes, several have designs that may be unsuitable if you intend to use a 15.5 gallon (56.8 liters) straight-sided keg as a brewpot. The abilities of each burner to accept brewpots of various sizes are explained in more detail within the discussions of the individual burners later in this article.

All but one unit we tested provided some method of screening the heating element from the wind. In four of the units, this consisted of a wide metal ring that was mounted to the frame and surrounded the casting. Without a wind screen, it is difficult to maintain a steady and consistent flame on the bottom of your brewpot in breezy conditions. This can make it difficult to maintain a steady rolling boil.

Propane: It's a Gas

Though not included with your burner, a propane tank is an essential part of your backyard brewing system. Those ubiquitous 20 pound cylinders, like the ones used with your backyard grill (you don't still use charcoal, do you?) are easy to come by and convenient for homebrewing. Larger and smaller sizes are available, although I wouldn't recommend a smaller size for homebrewing as you will have to refill it more often. Also, you will increase the likelihood of running out of propane at an inopportune time, such as part way through boiling your wort.

In a quick check of several hardware stores, I found the approximate cost of a new 20 pound propane cylinder to be around \$30. As of this writing, the cost of filling a 20 pound cylinder averaged \$8 in my area. Though less economical, some businesses will exchange a full cylinder for your empty one. This costs \$15 at my neighborhood supermarket. I like to keep an extra cylinder at hand, though it's an added expense. It certainly beats the aggravation of running out of fuel in mid-brew.

Propane cylinders are reverse threaded, i.e. the regulator-hose assembly is attached to the propane cylinder by turning the male fitting at the end of the hose counter-clockwise. Having used propane cylinders for a dozen years, I now occasionally turn the fitting the correct way on the first try.

How We Tested

Our road testing took place in the well-ventilated brewhouse of the Overland Stage Stop, a brewpub located in Longmont, Colorado. (Note: Unless you have a large, well-ventilated brewhouse available for your use, do not operate propane burners indoors. They are intended only for outdoor use!) The tests were conducted by yours truly, and members of the Longmont-based TRIBE homebrew club including AHA Administrator Brian Rezac, Don Blaker and Nicole Wantling. Other TRIBE members stopped by throughout the day *(continued on page 85)*

Burners: The Fine Print

	Cache Cooker SH-140L	FYRBREWER	King Kooker 11 PK	King Kooker 84 PK	King Kooker 90 H/S PK	Superb PC-100
Suggested Retail Price	\$89.99	\$64.95	\$87.84	\$62.75	\$38.84	\$113.00
BTU Rating	100,000	170,000	55,000	175,000	200,000	35,000
Time required to bring 2 gals. to boil	7:00	8:30	12:00	5:00	6:15	14:20
Performance rank (1 = best)	3	4	5	1	2	6
Fuel consumption rate at max. output	4.3 lbs./hr.	4.1 lbs./hr.	2.1	6.6 lbs./hr.	8.6 lbs./hr.	13 lbs./hr.
Fuel consumption rank (1 = best)	4	3	2	5	6	1
Casting	4" 24 flame pts	4" 24 flame pts	11" 200+ flame pts	4" 24 flame pts	N/A (uses jet)	6" 74 flame pts
Easily accepts keg-style brewpot?	yes	yes	no	no	yes	yes
Air shutter?	yes	yes	yes	yes	no	yes
Wind screen?	yes	yes	yes	yes	no	yes

THE INCREDIBLE STAYING POWER OF Guinness

BY GREG KITSOCK

EDITOR'S NOTE: With one of our long-time favorites, Guinness Stout, we begin a regular series of articles on "Cult Beers," those special brews that have come to define beer culture worldwide. Enjoy!

Definition of an Irishman: a complex mechanism for turning Guinness into urine (an old joke reprinted in *The Stout Book* by Brendan O'Brien).

No offense intended, but the Irish do love their stout. According to O'Brien (writing as of 1990), almost half of all the beer consumed on the Emerald Isle is stout, and nine out of every 10 pints come from Guinness' St. James Gate brewery in Dublin.

Guinness' fame, however, straddles seas and continents. The German chancellor Bismarck is said to have enjoyed the oily black ale. Charles Dickens mentioned it in *The Pickwick Papers*, although an illustration in the 1837 edition misspells it with one "n" (a common mistake even today). Scottish novelist Robert Louis Stevenson

maintained his own stash in Western Samoa. In 1909, Antarctic explorer Douglas Mawson carried along Guinness on his trek to the South Magnetic Pole. Eighteen years later, a follow-up expedition found four of the bottles in Mawson's base camp, frozen solid but still drinkable when thawed.

Guinness today operates branch plants on three continents, and has licensing agreements with about 30 to 40 additional breweries. Altogether, 10 million pints of the archetypal dry stout are drunk every day in 120 countries worldwide. It's amazing that such a global empire should spring up on an island of barely over five million people. Even more incredible is that Guinness should offer, as its flagship product, a dark, roasty ale in an age where pale lagers have run roughshod over older styles.

According to *Michael Jackson's Beer Companion* (1997 rev. ed.), the St. James Gate Brewery makes five to six principal versions of stout, which are tweaked to create 19 subvarieties. Two distinct products are





LEFT PHOTO BY ROBERT GOLDMAN
RIGHT PHOTO COURTESY OF THE GUINNESS
IMPORT COMPANY

available in the United States. Despite the popular misconception that dark beers are invariably strong and heavy, draft Guinness measures only 4.1 to 4.2 percent ABV, less potent than a Budweiser. Jackson cites its original gravity as 1.039, which is less than the figure of 1.043 he gives for Bass Ale, Guinness's most popular companion in black-and-tans. (In fact, by pouring the Guinness gently over the bowl of a spoon, you can create a layered drink with the stout floating atop the ale.)

Draft Guinness is brewed from a grist of about 10 percent roasted barley, 25 percent flaked barley, and the rest pale malt. The water, from the Wicklow Mountains, has gypsum added to make it harder. According to Fred Eckhardt in his *Essentials of Beer Style*, the brewery employs a two-step infusion mash, heating to 148 to 151 degrees F (64 to 66 degrees C) for one hour. Bitterness is about 45 IBUs, the hops being added in one addition (Eckhardt cites Bullion and Goldings). Guinness has long since abandoned its open square

fermenters (some so big they could hold over 26 double-decker buses), replacing them with modern cylindroconical vessels. Originally, the brewery used several strains of *Saccharomyces cerevisiae*, but narrowed its yeast to a single strain in 1960. The variety is unusual in that it tends to disperse evenly throughout the vessel, neither rising to the top nor sinking to the bottom. The yeast is pitched at a wort temperature of about 63 degrees F (19 degrees C), which may rise to 74 to 80 degrees F (23 to 27 degrees C) during the brief but vigorous primary fermentation. The result is what Jackson describes as a "moderate degree of fruitiness."

Rumors have long existed about the presence of additional ingredients. The Guinness family, who belonged to a religious minori-

ty in Ireland, was once accused of adding Protestant Bibles and prayer books to the mash to force their ingestion by unsuspecting Catholics. A more widespread—and plausible—belief is that Guinness adds a small amount (2 to 3 percent) of deliberately soured beer to the fermenter to create that slight acidic twang that separates Guinness from most other dry stouts. However, spokesmen for both the American importer and the St. James Gate Brewery deny this.

Despite the reports of some American tourists, the kegged Guinness served in Ireland and that served in America both

months in 100-year-old oaken tuns. Roger Protz, in his book *The Ale Trail*, describes the FES as having a "toasty, roasty, winy and woody aroma," with hints of licorice, banana and horse blanket (from the presence of *Brettanomyces* yeasts in the wood).

The son of a land agent (who also dabbled in brewing), Arthur Guinness stepped into history on the final day of 1759 when he purchased a run-down, vacant brewery at St. James Gate in Dublin. The 34-year-old Guinness plunked down 100 pounds that he had received as an inheritance, and signed a long-term lease at an annual rent of 45

pounds. (Long-term is an understatement: his heirs will not have to renegotiate until the year 10,759 AD.) Apparently, there was a dispute over whether Guinness was entitled to free access to the municipal water supply. In 1775, the local sheriff and his men paid a visit, with orders either to collect past-due utility payments or fill in the water course that the brewery used. The outraged Mr. Guinness drove them off with a pickaxe and some

expletive-laced language. The dispute was not settled until nine years later.

At the time, Ireland was not renowned for its beer. According to a couplet penned in 1725:

*"This beer is sour—
thin, musty, weak and stale
and worse than anything
except the ale."*

Guinness' first beer was an unhopped, malty ale, typical of Irish malt beverages. By the 1780s, he had branched off into porter brewing, employing a famous London brewer named Nathaniel Chivers. In 1799, he decided to limit production to porter. There were two varieties. The weaker, marked with a single "X," was later to become known as



What you see here are the fermenting tanks at the St. James Brewery in Dublin, Ireland.

emanate from the same source and are identical in all respects. "If you buy the Guinness at a pub next to the brewery, it's still the same beer," stresses John O'Sullivan, packaging manager for the St. James Gate Brewery. The kegged stout is flash-pasteurized, as is the bottled Guinness Extra Stout sold in America. The extra stout is stronger (6% ABV) and more bitter (50+ IBUs) than the draft Guinness. The carbonation—three volumes worth, over twice what draft Guinness contains—"imparts a sharp bitterness in and of itself," says O'Sullivan.

Guinness also brews a Foreign Extra Stout, which, sadly, is not available in America. Stronger and more bitter still (7.5 percent ABV, 60+ IBUs), Guinness FES is blended with stale beer that has spent one to three

"plain" (Guinness continued to brew a descendant of this beer until 1974). The stronger version, marked "XX," was called "stout porter." (The word stout then signified the strongest beer a brewery had to offer, regardless of its color or flavor profile.)

Guinness' son, also named Arthur, introduced an even stronger export beer that, like Britain's India pale ale, could be shipped overseas without fear of staling. But the younger Guinness' greatest contribution was adding an untraditional ingredient to his beer.

Britain, as a colonial power, sought to exploit its dependencies as sources of cheap raw materials and markets for manufactured goods produced in the mother country. To discourage brewing in Ireland (and preserve the market for British beer makers), the crown passed a prohibitive tax on malt. Arthur Guinness II dodged this bullet by using a portion of unmalted (and therefore untaxable) barley in his beer. This barley, roasted almost to the point of being burnt, gave the brew an ebony color and roasty, dry, slightly acidic flavor that distinguished it from traditional porters. The term "stout porter" gave way to "stout." As early as 1840, Guinness was devoting 82 percent of its production to the new style of beer.

Guinness is said to use more roasted barley than any other company in the world. The brewery roasts its own grain, heating it to 428 degrees F (152 degrees C) with jets of hot air. Visitors to the brewery have compared the aroma to being inside a giant coffee roaster. The use of roasted barley is a distinguishing trait of Irish-style dry stout, but not an indispensable one. Guinness produces a version brewed from roasted malts for Central European lands that subscribe to the Reinheitsgebot (which forbids the use of raw grain in brewing).

Guinness enjoyed a remarkable spurt of growth during the late 1800s. By 1881, production had passed the 1 million barrel mark, and for a while after World War I, the St. James Gate Brewery was the largest in the world. Guinness used Ireland's railways and canals to become the first truly national brewery on the Emerald Isle. At the start of the 20th century, Guinness employed an entourage of 15 locomotives, two motor cars, nine steamboats and several hundred horse-drawn carts to ensure timely shipments.

However, the genius of the Guinness family lay in tapping the export market. As early as 1769, the brewery began shipping to England. By 1803, barges laden with extra-strength Guinness were servicing the Caribbean. The 1820s saw the opening of new markets on Africa's east and west coasts. Guinness granted its first American franchise in 1858 to a New York importer named McMullen, and in 1869 invaded Australia.

Guinness' world conquest was not simply a matter of ambition, but of sheer survival. Ireland, as of 1837, had 240 breweries servicing a country of a few million people. Beer drinkers were concentrated in the urban areas, which were few and far between. (The country folk preferred an illicitly distilled whiskey called poteen.) Ireland was destined to go through some hellish times. The Great Famine of 1845 killed 750,000 Irishmen outright and forced over a million to emigrate between 1846 and 1855. Also injurious to the liquor trade was Father Theobald Mathew, a charismatic Irish temperance crusader who, during his lifetime, persuaded over seven million people to sign total abstinence pledges.

Guinness' fortunes were boosted when Britain, as an energy conservation measure during World War I, restricted the use of highly kilned malts in brewing. No attempt was made to extend this prohibition to the restive Irish population. As a result, porter and stout brewing atrophied in England, leaving Guinness to fill the void. In the 1930s, after Ireland and England had gotten into an economic war and slapped high duties on each other's goods, Guinness built a branch brewery in High Park, London.

A little-known fact is that Guinness, in 1949, took over the Burke Brewery in Long Island, NY with the aim of brewing stout there for the American market. Irish-Americans, however, preferred the imported version, and the brewery closed in 1954. Guinness also canned a "brite ale" and a "brite lager" in the mid-fifties at the Goebel Brewing Company of Detroit and Oakland.

Innovative advertising helped to ensure Guinness' success in the 20th century. Beginning in 1928, the S.H. Benson agency in Britain concocted a campaign around the slogans "Guinness is good for you" and "Guinness for strength." Fanci-

Emerald Ale Dry Stout

Mike Bardallis

Allen Park, Michigan

(winner, 1997 Real Ale Festival homebrew competition)

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

- 7 lb Briess pale ale malt (3.18 kg)
- 1 lb roasted unmalted barley (.45 kg)
- 1 lb flaked barley (.45 kg)
- .5 lb 80 Lovibond crystal malt (.23 kg)
- 2 oz black patent malt (57 g)
- 1.5 oz Northern Brewer hops; any moderate alpha hop may be substituted (43 g)
- Wyeast No. 1056 American ale yeast

- Original specific gravity: 1.052
- Final specific gravity: 1.012
- Boiling time: 90 minutes
- Primary fermentation: 14 days
- Secondary fermentation: 1 week

Brewer's Specifics:

Step infusion mash, with a 20 minute rest at 130 degrees F (54 degrees C) and a 40 minute rest at 150 to 152 degrees F (67 degrees C). Mash off at 170 degrees F (77 degrees C) and hold for 5 minutes before lautering. Hops are added 30 minutes into boil and remain in vessel until end of boil. Ferment at 65 to 68 degrees F (19 to 20 degrees C). After primary fermentation is complete, prime with 1 ounce of corn sugar and transfer to Cornelius keg. Pressurize at 1 to 1 1/2 volumes of CO₂.

Bardallis describes his award-winning beer as a good basic stout with a little more body and sweetness than a Guinness. For homebrewers who wish to bottle, Bardallis recommends priming with a half cup corn sugar per 5 gallon batch for a livelier carbonation. Bottles should be allowed to sit 1 to 2 weeks before consumption.

ful illustrations showed Guinness drinkers engaging in Herculean feats. A construction worker hoists an immense steel girder over one shoulder. A teamster gives his horse a ride, instead of the other way around. (continued on page 91)



Won't You Be Maibock

No one knows just how or when today's pale bock came about. In a sense, what we call helles bock or Maibock has gone full circle. "The original bock was pale in color and drier in flavor than today's Maibocks," says Ray Daniels, author of *Designing Great Beers* (Brewers Publications, 1996).

Bock is thought to have evolved from a beer first made in Einbeck, in today's Lower Saxony, in the 1300s. Ironically, Einbecker was relatively pale, having been brewed from one-third wheat malt and two-thirds barley malt. The huskless wheat contributed little color, and the barley malt was as pale as possible.

Early in the 17th century, the fortunes of Einbeck and its sister cities in the Hanseatic League were fading, and Munich's brewers endeavored to brew bock beer. They had learned that the city's alkaline water best suited a dark beer that downplayed hop bitterness; hence bock became a malt-dominated dark beer.

Pale bock came about only after the introduction of indirectly kilned malt. According to Horst Dornbusch, author of *Prost!: The Story of Lager Beer* (Brewers Publications, 1997), the famous brewers Anton Dreher of Vienna and Gabriel Sedlmayr of Munich's Spaten brewery toured

By **JIM DORSCH**

Great Britain in the 1830s, where they learned how to make pale malt. This discovery, combined with the isolation of bottom-fermenting yeasts, made modern pale bocks possible.

What's in a Name?

Not all pale bocks are Maibocks. Darryl Richman, author of *Bock* (Brewers Publications, 1994), divides pale bocks into two categories: Helles Bock and Maibock. Ron Barchet of Victory Brewing Co., Downingtown, PA, sees a similar stylistic split.

Richman says a pale bock should have original gravity of 1.064 to 1.072 (16 to 18 degrees Plato), an apparent extract 1.012 to 1.016 (3.0 to 3.9 degrees Plato) and 23 to 33 International Bitterness Units (IBU). Helles bock has a color of 4.6 to 8.0 SRM and carbonation in the lower half of the range, from 2.15 to 2.70 volumes. Maibock has a color of about 11 SRM, with carbonation on the high side of the range. Maibock has a bit more aging, and is perhaps a bit hoppier than Helles Bock.

Barchet sees a version of Maibock, common outside Bavaria, that is dry and more attenuated than a Bavarian Maibock. Its gravity is 16 to 17 Plato (1.064 to 1.068). The product is made entirely from pale malt and has a nice hop bite. A classic Bavarian Maibock is richer, maltier and less attenuated. This beer might be made with a bit of Munich or Vienna malt. Helles bock, says Barchet, "is a paler, drier version of a Maibock, more of a modern Mai-

bock. It's a little lighter in color and has more balanced hopping."

Munich's Hofbräuhaus breaks the mold with a darkish Maibock, and Barchet has seen a heller doppelbock.

Balancing Act

Pale bock walks the line between Bavarian Helles and traditional bock. The style should be malty without the darkness of a traditional bock. It's substantial but refreshing, and it may have a hint of hop flavor.

Richman stresses the importance of melanoidins in attaining malty aromas and flavors in bock beers. These brown to black pigments are the product of browning reactions. The trick in brewing a pale bock is to attain a sufficient level of melanoidins while avoiding the concomitant dark color. This balance is attained through ingredient selection and procedure.

Pale bock tends to have a higher hop profile than a dunkel bock, the object being to compensate for the reduced melanoidin content. Richman recommends a double-decoction mash coupled with a short boil to keep the color from getting too dark.

Ingredients

Ingredients are critical in a pale bock. "For this style, as well as Oktoberfest or Vienna, the ingredients are important," says Phil Kaszuba, a homebrewer from Essex Jct., VT. A pale bock has little with which to hide problems, whereas a flaw in an ale might be buried beneath layers of dry hops.

Malt

Most brewers make pale bock primarily from pale malt, although Richman uses almost 50 percent Munich malt in some recipes.

Jim Busch, a homebrewer and writer living in Silver Spring, MD, recommends Continental Pilsener malt and Munich malt. Weyermann makes a melanoidin malt, but Busch says it's too dark for a pale bock. "You're just as well off decocting pale malt," he says.

"Vermontsgebot" Maibock

Phil Kaszuba

Essex Junction, Vermont

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

- 9 lb Irek's Pilsener malt (4.1 kg)
- 2 lb Irek's Vienna malt (1.4 kg)
- 1 lb German light crystal malt (0.45 kg)
- 1 lb wheat malt (0.45 kg)
- 1 lb Pilsener malt (0.45 kg), toasted 10 minutes at 350 degrees F
- 0.5 oz Hallertauer Hersbrucker leaf hops, 3.4% alpha acid (14 g) (60 min.)
- 0.5 oz Hallertauer Mittlefrüh hop pellets, 2.8% alpha acid (14 g) (60 min.)
- 0.5 oz Hallertauer Hersbrucker leaf hops, 3.4% alpha acid (14 g) (30 min.)
- 0.5 oz Hallertauer Mittlefrüh hop pellets, 2.8% alpha acid (14 g) (30 min.)
- Wyeast No. 2206 Bavarian lager liquid yeast culture in a 1-quart (0.95 L) starter

- Original specific gravity: 1.069
- Final specific gravity: 1.014
- Boiling time: 60 min.
- Primary fermentation: two weeks at 47 degrees F (8 degrees C) in glass
- Secondary fermentation: three weeks at 47 degrees F (8 degrees C) in glass

Brewer's Specifics

Mash in with 2.75 gallons of water at 146 degrees F (63 degrees C). If necessary, adjust temperature to 125 degrees F (52 degrees C). Hold for 20 minutes. Remove half the mash and heat to 155 degrees F (68 degrees C); hold for 15 minutes. Boil this portion for 15 minutes, then return to main mash and hold at 154 degrees F (68 degrees C) for one hour.

Force carbonate in keg.

Helles Bock or Heller Bock?



In German, der Bock, meaning goat, is masculine, explains Horst Dornbusch. Hence the term "Heller Bock," which is a pun on the animal name, for a pale bock beer. The proper term is "Helles Bock," since bock beer is neuter.

Windy City Maibock

Ray Daniels
Chicago, Illinois

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

- 8 lb Alexander's Sun Country Plain Light Malt Extract (3.6 kg)
- 1 lb Pilsener malt (0.45 kg)
- 0.5 lb Munich, aromatic or biscuit malt (0.23 kg)
- 6 AAUs Hallertauer, Hersbrucker, Spalt or Tettnanger hops (see note in brewer's specifics) (45 min.)
- 0.5 oz Hallertauer, Hersbrucker, Spalt or Tettnanger hops (14 g) (15 min.)
- Wyeast No. 2206 Bavarian lager liquid yeast culture in a 1-quart (0.95 L) starter
- 0.75 cup dextrose for priming
- **Original specific gravity:** 1.070
- **Boiling time:** 60 min.
- **Primary fermentation:** two weeks at 50 to 55 degrees F (10 to 13 degrees C) in glass
- **Secondary fermentation:** six weeks at 35-40 degrees F (2 to 4 degrees C) in glass

Brewer's Specifics

Crush grains and add to one gallon of cold water in the kettle. Bring to a boil, then cut heat immediately and strain grains from pot with a mesh bag or sieve. Proceed as usual.

Note: AAUs are alpha acid units equal to the weight of hops in ounces multiplied by the alpha acid percentage expressed as a whole number. Eg., 2 ounces of hops at 5 percent alpha acid result in 10 AAUs.

Variations

For a nontraditional Maibock with a slightly lighter body and some honey flavor, substitute a pound of lightly flavored honey for an equal amount of malt extract. Substitute Munich or Vienna malt for Pilsener malt for additional maltiness. For more grain character, substitute additional malt grain for extract at the rate of one pound of grain to 14 ounces of extract.

A Word from our Sponsor

The Association of Brewers has issued the following style guidelines for German-style helles bock/Maibock:

The German word "helles" means light colored, and, as such, a helles bock is light straw to deep golden in color. Maibocks also are light-colored bocks. The malty character should come through in the aroma and flavor. Body is medium to full. Hop bitterness should be low while noble-type hop aroma and flavor may be at low to medium levels. Bitterness increases with gravity. Fruity esters should be minimal. Diacetyl levels should be very low. Chill haze should not be perceived.

Original Gravity: 1.066 to 1.068 (16.5 to 17 degrees Plato)

Apparent Extract: 1.012 to 1.020 (3 to 5 degrees Plato)

Alcohol by Volume: 6 to 7.5 percent

Bitterness: 20 to 35 IBUs

Color: 4 to 10 SRM

SOURCE: NORTH AMERICAN BREWERS RESOURCE DIRECTORY 1997-1998 (BREWERS PUBLICATIONS, 1997)

Caramel malt isn't used to a great degree in pale bocks. "In America, brewers rely more on caramel malt, which gives the beer a much sweeter malt character," says Daniels. German bocks often employ Munich malt, which gives more dryness up front. Both Vienna and Munich malt confer a slight toasted character without caramel sweetness. Daniels recommends a good German Pils malt with five percent biscuit or aromatic malt to spice up the brew and add complexity to its malt character.

Dornbusch makes a pale bock from 50 percent Briess two-row pale malt, 30 percent Munich malt and 20 percent Briess Cara-Pils. He uses CaraPils because he wants a caramel-type malt that's low in color. The wort emerges with a gravity of 1.074 to 1.075; it's boiled 3.5 to 4 hours to produce some melanoidins. By this time the gravity has increased to around 1.080. "The grain bill has next to no color," Dornbusch says. "The color comes primarily from melanoidins."

Kaszuba brewed his Vermontsgebot from 64 percent Irek's Pilsener, 14 percent Irek's Vienna and 7 percent each of light crystal, wheat and home-toasted Pilsener malts. The toasted malt adds another dimension to the malt profile, Kaszuba says. Vienna malt gives a stronger malt character without contributing much color. Light crystal malt adds depth and sweetness. Wheat malt contributes to head retention, and although it

might not be necessary, its inclusion gives comfort to the brewer.

Ron Barchet uses continental malts to make Victory St. Boisterous Heller Bock, but believes a brewer can produce a fine pale bock with domestic malts. "You will have a slightly different, but good malt flavor," he says. Higher protein American malts also enhance head retention.

Hops

Nothing's sacred, of course, but it's generally agreed that pale bocks are best served by European "noble" hops. While hops shouldn't dominate, a dash in the finish can be pleasant. "I've had some nice Maibocks with a little spritz at the end," says Barchet.

Barchet uses nothing but Hallertauer in St. Boisterous. Saaz and Tettnanger are also good. On the domestic side, Perle, North American Hallertauer, Liberty and Crystal should work well.

Kaszuba uses multiple hop varieties to enhance his beer's complexity. In Vermontsgebot, he used Hallertauer Hersbrucker and Hallertauer Mittelfrüh for both bittering and finishing. Dornbusch uses Hallertauer and Mt. Hood up front and finishes with Tettnang hops at a quarter of the rate used for bittering. Rob Mullin bitters his Dominion Spring Brew with Perle and finishes with Hallertauer Mittelfrüh.

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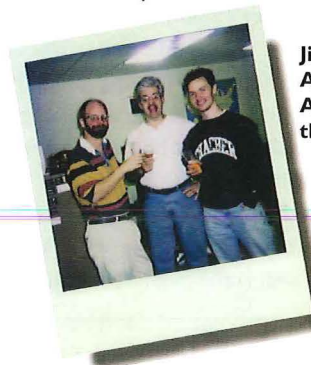
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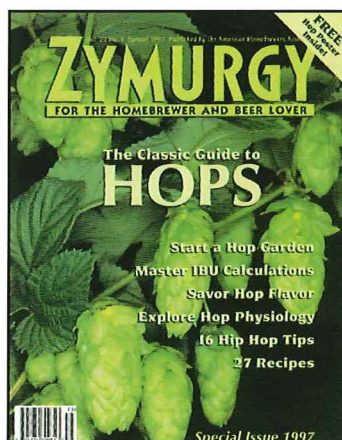


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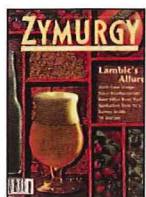
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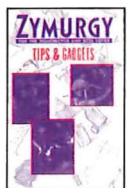
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Yeast

Pale bock should be fermented with a healthy lager yeast that attenuates relatively well. You don't want a yeast that flocculates quickly, leaving behind a lot of residual sugars. Pitch at a relatively high rate. Richman recommends one ounce (30 mL) of thick slurry per gallon (3.8 L) of wort. Liquid cultures should be grown up to a liter or more of active starter. Try to pitch 18 million cells per milliliter of wort.

Dave Logsdon of Wyeast Laboratories, Mt. Hood, OR, recommends Wyeast 2124 Bohemian lager yeast, 2206 Bavarian lager yeast or 2308 Munich lager yeast. These strains ferment relatively dry and leave a malt profile that tends to dominate. It's possible to use Wyeast 2278 Czech Pils yeast, but it can result in a cloying maltiness.

You can use ale yeast, but be prepared for an estery beer. At Rogue Ales, Newport,

OR, head brewer John Maier ferments Maibock with ale yeast. "We get a kind of banana flavor in the background," he says. If you use ale yeast, try to ferment toward the bottom of its recommended temperature range to minimize ale character in the beer.

Water

Richman recommends soft water with some calcium for helles bocks. The carbonate level should be less than 50 mg/L. Soft water should also be used in sparging to keep the pH from rising. In particular, avoid high sulfate content, which brings out hop bitterness.

Malt Extract

Richman identifies four problems in using malt extract to brew a pale bock beer.

Oxidation in malt extracts combines with melanoidins to cause premature staling. Oxidation also causes darkening, which is clearly undesirable in a pale bock. There is evidence that some malt extracts have insufficient levels of free amino nitrogen (FAN) to support healthy fermentation in a bock beer. Finally, it is believed that some malt extracts are adulterated with glucose syrup, affecting the relative levels of various wort sugars and inhibiting yeast respiration.

Extract brewers should buy reputable brands known to be fresh, supplement malt extract with specialty grains and, if possible, use a small-scale mash. Brewers interviewed for this article recommended the Irek's and Alexander's Sun Country extracts.

Dornbusch outlines a simple procedure for an extract-based pale bock. Crack some Munich or CaraPils malt and put it in mesh grain bags. Bring the bags and some cold water to 190 degrees F (88 degrees C) over 30 minutes. Remove the bags and rinse with

Commercial Pale Bocks

Commercial pale bocks come in all sizes and shapes. U.S.-brewed examples tend to be sold regionally, so it might be tough to sample more than a few in a given location.

Outside Munich, the Forschungs brewpub sells a Blonder Bock with a gravity of 1.080 (20 degrees Plato) in cooler months and a comparatively modest 1.072 (18 degrees Plato) during the summer. Be forewarned: the beers are sold only by the liter. The pub is open from early March to mid-October.

Also outside Munich, Brauerei Unterhachen produces St. Jakobus Heller Bock. Ayinger makes a relatively pale, malty Maibock with original gravity 1.074 (18.5 degrees Plato) and 7.1 percent alcohol by volume. Ayinger products are imported by Merchant du Vin Corp., Seattle, Wash.

In Munich, the Hofbräuhaus serves a malty, amber-brown Maibock with original gravity 1.065 to 1.066 (16.2 to 16.5 degrees Plato). Spaten brews Franziskus Heller Bock.

From the town where it all began come Einbecker Hell and Maibock, the latter available seasonally.

Paulaner North America imports Paulaner Maibock and Hacker-Pschorr Hubertus Bock, both available only on draft.

The Swiss Hürlimann group brews the astounding Caesarus™ Emperor™ Heller Bock, a sugary-sweet pale bock with original gravity 1.103 (24.5 degrees Plato), apparent extract 1.011 (2.8 degrees Plato), 25 IBUs and 12.5 percent alcohol by volume.

In spring 1997 the Old Dominion Brewing Co., Ashburn, VA, produced Dominion Spring Brew, with gravity 1.068 (17 degrees

Plato), apparent extract 1.016 (4 degrees Plato), 20 IBUs and color 6 SRM. The beer was made from 85 percent pale malt and 15 percent DeWolf-Cosyns Munich malt with color 5 to 7 Lovibond. Brewmaster Rob Mullin used a single-decoction mash. Perle hops were used for bittering, Hallertau Mittelfrüh for finishing. Dominion Spring Brew changes each year, and sometimes is a traditional doppelbock.

At the Baltimore Brewing Co., Baltimore, MD, Theo de Groen produces a seasonal Maibock from domestic malt using a single decoction. At Gordon Biersch in San Jose, CA, De Groen's Weihenstephan classmate, Dan Gordon, makes a bottled Blonde Bock with original gravity 1.066 (16.5 degrees Plato) and bitterness units in the low 20s.

The Victory Brewing Co., Downingtown, PA, brews St. Boisterous, a Heller Bock that's not as dry and hoppy as De Groen's Maibock. Original gravity is 1.069 (17.2 degrees Plato), apparent extract is 1.014 (3.6 degrees Plato) and bitterness is 25 IBUs. Head brewer Ron Barchet makes the beer from imported Weyermann Pilsener and Wiener (Vienna) malts.

The Sierra Nevada Brewing Co., Chico, CA, makes a seasonal Pale Bock with gravity 1.064 (16 degrees Plato), apparent extract 1.015 (3.7 degrees Plato) and 6.5 percent alcohol by volume. The beer is made from pale and dextrin malts, Perle hops in the kettle and Mt. Hood in the finish.

The Stoudt Brewing Co., Adamstown, PA, pushes the style by adding honey to its Honey Double Maibock.

Highrock Maibock

Arlin Karger

Moorhead, Minnesota

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

- 6.5 lb pale malt (2.9 kg)
- 6.25 lb Munich malt (2.8 kg)
- 1.25 oz Tettnanger hop pellets, 3% alpha acid (14 g) (60 min.)
- 0.75 oz Liberty hop pellets, 3% alpha acid (35 g) (30 min.)
- Wyeast No. 2206 Bavarian lager liquid yeast culture in a 1-quart (0.95-L) starter

- Original specific gravity: 1.068
- Final specific gravity: 1.018
- Boiling time: 60 min.
- Primary fermentation: three weeks at 47 degrees F (8 degrees C) in glass
- Secondary fermentation: three months at 37 to 40 degrees F (3 to 4 degrees C) in glass
- Stored in keg at 40 degrees F (4 degrees C)

Brewer's Specifics

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

Force carbonate in keg.

cold water, capturing the runoff in the boiling pot. Do not squeeze the bags, as this will release starches and polyphenols. Add 6.6 pounds (3 kg) of pale malt extract and continue as usual.

Procedure

Good brewing procedure makes a good pale bock. Pay particular attention to producing requisite malt flavors and aromas while maintaining a relatively pale color.

Classic bocks are produced with a decoction mash, but some American brewers make fine examples with infusion. "Decoction adds depth to the malt character, aroma and flavor without dominant, heavy sweet-

ness—so you can drink a few," says Kaszuba. Furthermore, he says, "Decoction does contribute a specific malt character that you can't get by other means."

Richman suggests a double-decoction for pale bocks, giving good malt character without the excessive color of a triple-decoction.

Whether you decoct or infuse, Busch recommends a 134 degrees F (57 degrees C) protein rest for 20 to 30 minutes, a half-hour beta rest at 144 degrees F (62 degrees C) and a final rest at 154 to 158 degrees F (68 to 70 degrees C). Mash off at 170 degrees F (77 degrees C).

A pale bock can have some late hop character, but the emphasis is firmly on malt. Hop aroma is inappropriate in this style. Add late hops at least 10 minutes before the end of the boil.

The wort must contain ample oxygen to avoid long lag times and excessive ester production. Primary fermentation should last 7 to 10 days at 41 to 50 degrees F (5 to 10 degrees C). If possible, ramp down to 30 degrees F (-1 degree C) over a week. Crash-cooling entails the risk of less than full attenuation. Make no mistake: Colder is better. But don't despair if you can't hit the mark on temperature; some fine bocks have been made at a constant temperature in the high 40s (7 to 9 degrees C).

Lager the beer as long as you can. Flavors will continue to mellow, and alcohol flavors will smooth out. "Six weeks is a lot better than four weeks, and ten weeks is a lot better than six weeks," says Mullin. "What really made our Spring Brew nice this last year (1997) was that it ended up lagering almost six months."

Further Reading

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Jim Dorsch contributes regularly to *Zymurgy* and *The New Brewer*.



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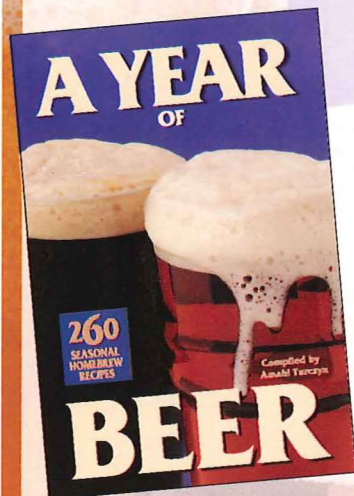
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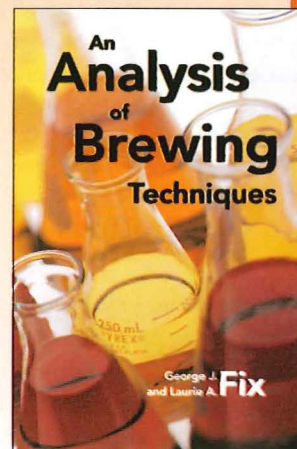
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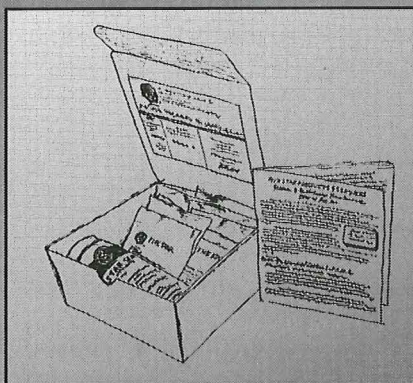
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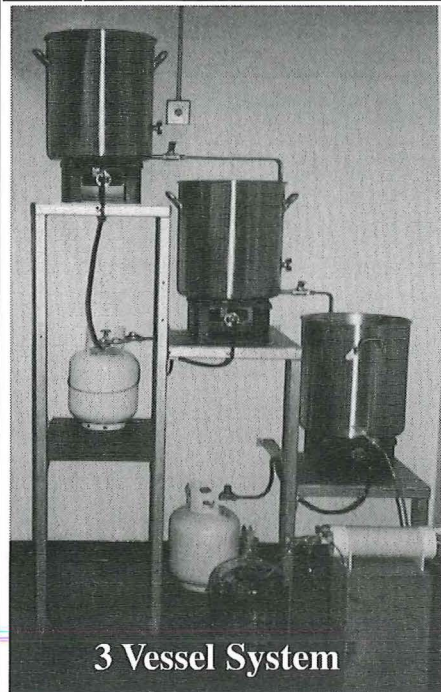
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To really appreciate how far we've come in the last twenty years, you only need to thumb through *Zymurgy*, Volume 1, Number 1, dated December 1978. This 12-page, two-staple journal wasn't much more than a newsletter put out by a few guys who loved making beer. They were obviously ecstatic over the recent federal amendment of October 14, 1978, which allowed homebrewers 100 gallons of beer or wine, or 200 gallons per household, tax free, for personal consumption. Thanks to then-President Jimmy Carter, homebrewing was officially legal for U.S. citizens over the age of 18.

Two months later, the American Homebrewers Association was born.

Editor Charlie Papazian made it clear in that issue what *Zymurgy's* mission statement was: "*Zymurgy* will refine the science of brewing to an art."

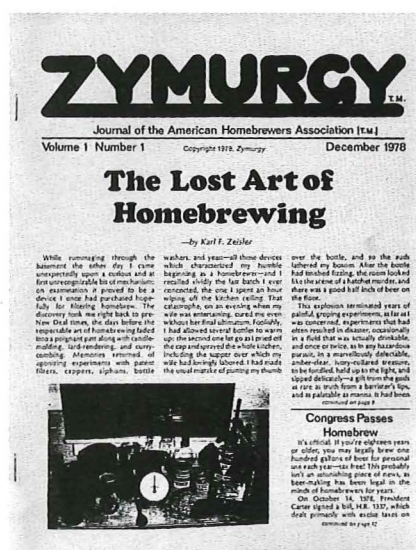
To that end, the first edition of the fledgling Association's journal included stories like "Black Lava Ale: Homebrew in Hawaii," which followed the misadventures of AHA staff members trying to brew a batch of ale while on vacation (including a recipe for that infamous brew); a tribute to beer cuisine, with an outrageous recipe for beer-

boiled shrimp with stuffed whole lobster; and "The Lost Art of Homebrewing," a humorous and sometimes painful look at the difficulties encountered by homebrewers in the years before brewing one's own beer was a legal practice.

As author Karl F. Zeisler summed it up at the end of the article, "Unquestionably the cellar art was the greatest force for temperance in the whole insufferable Prohibition era. Practicing it, as I have revealed, was just too much damn trouble."

Probably the most intriguing element in the first *Zymurgy* is the advertisement for the first annual National Homebrew Competition. Details of the event were outlined in the following issue: "Twenty-four brewers competed in six categories: Light ales, dark ales, light beers, dark beers, stouts and unusual brews. Brewers were asked to bring in two quarts for judging and four quarts for educating the public during an open house. In all, there were 34 entries, including two by last-minute competitors who had heard an announcement on local radio. . .

"Judges and AHA officials met several weeks in advance to prepare the judging form. They used information from a variety of



sources on beer competitions as well as experience from years of making and tasting beers. Judges went through several trial sessions to test the validity of the judging form. Beers, ales and brews were awarded points for presentation, appearance, clarity, head quality, bouquet, and taste. The taste category accounted for 30 of the possible 50 points."

Those who are familiar with the National Homebrew Competition now can realize how far this event has evolved since the very first one, but one element remains the same: the friendly spirit of competition by and for beer enthusiasts with a common interest in homebrewing and the sharing of knowledge and experience in the hobby. Really, that's how we started, and that's still our goal.

Veteran homebrewer and novice beer historian Amahl Turczyn is the Project Coordinator for the AHA.



1998 AHA National Homebrew Competition



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Second round competition takes place at the Northwest Homebrew Express National Homebrew Conference July 22-24 in Portland Ore., right before the Oregon Brewers Festival.

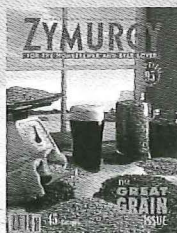
Contact the AHA at PO Box 1679, Boulder, CO 80306-1679, U.S.A.; (303) 447-0816; FAX (303) 447-2825; aha@aob.org or <http://beertown.org> for more Competition details, rules and regulations.

Registration May 4 through May 15

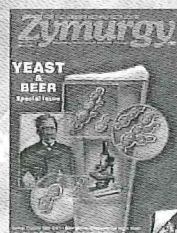
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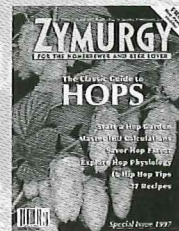
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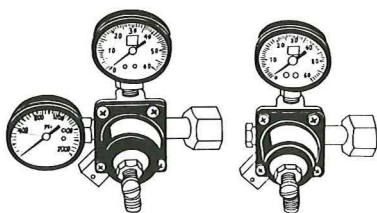
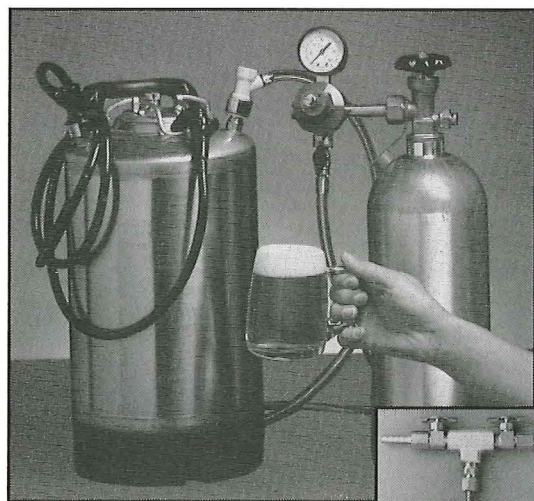
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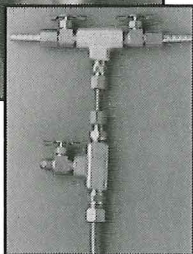
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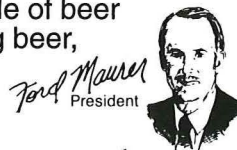
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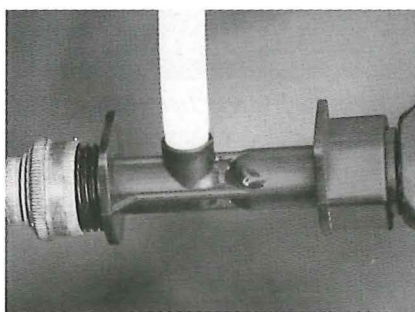
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The humidors hold 75 cigars, are available in oak, cherry or rosewood finishes and are lined with kiln-dried Spanish cedar. They also include a felt bottom, brass piano hinges, an analog hygrometer, a humidification device and complete instructions. Package price is \$59.99, plus \$10 S&H.

The "Eb" in the name, by the way, is longtime homebrewer and member of the Crystal Lake (IL) Midnight Carboys Ebben Raves. Ebben can also provide private label cigars, maybe with the same name as your favorite stout, handmade to order.

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The Polar Ware Company has made some changes in its 15-gallon stock pot to make it even more attractive to homebrewers. The brew pot is designed with two holes—one to house a ball valve and the other for an optional thermometer. If no thermometer is used, the upper hole remains plugged.

Both the 15-gallon brew pot and its 10-gallon counterpart come with a top and brass ball valve. Other accessories, such as a false bottom and a stainless steel ball valve, are also available.

For information, contact Polar Ware Company at (800) 237-3655 or (414) 458-3561.

More Label-Mania



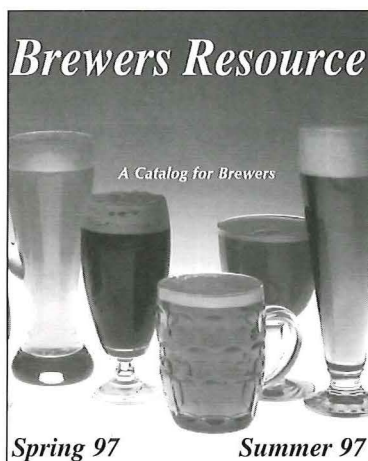
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A Good Paddling

Paddle Chart

	Overall Length	Handle Diameter	Paddle Head Sizes Width/Length	Price
Rangetop	20"	3/4"	3 1/2"/8"	\$25
Small	3' 0"	1"	6"/8"	\$70
Medium	4' 6"	1 1/4"	8"/10"	\$105
Large	6' 0"	1 1/2"	10"/12"	\$140

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James Slaton

Chill Haze for the Beginner

There is a tendency when one begins brewing to focus exclusively on the taste of your brew. It's a reasonable tack to take. With so much to learn about brewing, let's first figure out how to make a good-tasting beer and leave the details for later. I know that I skimmed sections of my brewing manuals for the phrase "won't affect the flavor, but" That was my signal to skip to the next topic.

From Dave Miller's *Brewing Guide*: "Chill haze is unimportant from a flavor standpoint...." Okay, on to the chapter on carbonation!

Unfortunately, most of us never go back and learn those important details. Who wants to read those tedious manuals (no offense, C.P.) once you think you've become an accomplished homebrewer? After all, that's what beginners do.

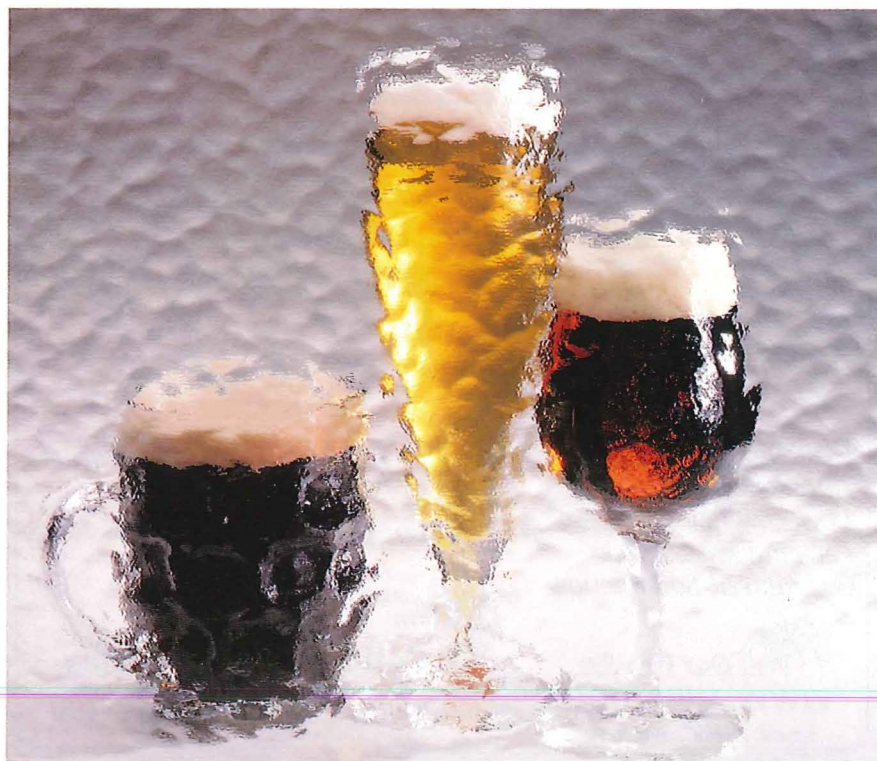
The end result is that five years later, you can brew a great tasting beer, but when serving it to friends in a glass, it looks so...well, homebrewed. First impressions last. When the first impression someone has of your beer is a hazy, murky mess, it's hard to win them over, even with a well-crafted maibock. It also tends to reinforce a prejudice that many non-brewers have about homebrew, which is often seen as a second-rate product equivalent to bathtub gin or homemade clothing. All of those things may be fine for hillbillies, but can't compare in quality or refinement to professionally made products. We live and drink in a country raised on crystal clear brews. To many drinkers, anything less looks dirty.

The only people possibly more critical of a cloudy beer than non-homebrewers are homebrewers themselves. Try pulling out a cloudy beer at your next homebrew meeting or, worse yet, enter one in a brewing competition. You might not be vilified, but if you have any sense of pride, you'll at least be embarrassed.

The message to the beginning brewers is simple: don't get caught in this trap. If you're going to learn how to brew, learn how to do it right the first time. Pay attention to details every time you brew a beer, and you have a better chance of it not only looking better, but tasting better as well.

Which brings us to chill haze and what the beginner (and veteran) homebrewer can do to avoid this messy little problem.

First things first—a little vocabulary lesson: chill haze is distinct from other kinds of haze. Not all cloudy beers are afflicted with chill haze. There are other causes, such as bacterial infection, suspended yeast and coagulated proteins. The most common ways of dealing with cloudiness are the use of filtration systems and the addition of clarifying agents that cling to the offending particles, weighting them down so they both drop out of solution. Typically, if you keep



your brewing process sanitary and use clarifiers like Irish moss or isinglass (made from the swim bladders of fish) in the brew pot or secondary, you should shouldn't have any problems with most hazes.

Chill haze, however, is a not so simple. The beer is clear one day and cloudy the next. The haze is elusive, too; it will go away as the brew warms.

Miller in *Homebrewing Guide* explains the problem: "Beer contains proteins and tannins in solution...The solubility of many proteins and tannins depends upon the temperature of the solution. As the liquid is

cooled, some of them will become insoluble, and, as they come out of solution, they will form colloidal particles that are too small to precipitate but are large enough to scatter light, thus clouding the beer."

Crafty little buzzards, aren't they?

The methods for fighting chill haze are similar to those for battling run-of-the-mill haze—filtration and clarifying agents. But there are caveats with both; mainly, that the materials that cause chill haze proteins and tannins also contribute several positive characteristics to your beer, such as head retention, color and even flavor. Choose your weapon carefully.

Filtration is not likely to be an option to the beginner unless you're just naturally a gadget freak and don't mind buying a system to filter your beer. This involves not only buying a filter, but an entire draft brew system to run the beer through the filter, which means two five-gallon stainless steel Cornelius-type "softdrink" kegs, a CO₂ tank, regulator, various hoses, fittings and gewgaws. Further adding to the complication of it all is the fact that you need to find some way to seriously cool the brew being filtered, because the particles that cause chill haze only come out of solution at low temperatures. That means having an extra fridge around where you can chill an entire Cornelius keg of beer to nearly 32 degrees.

It's hard to quote an approximate price for a draft system, because prices vary wildly from a couple of hundred dollars for a new system already assembled from a brewing catalog to around \$100 if you put it together yourself from reconditioned parts. You can expect to buy a filtration unit for about \$50. Filters are rated by the diameter of its holes and, thus, the size of the largest particle that will pass through it. Miller recommends a rating of .5 microns to remove chill haze particles. He warns, however, of the danger of "stripping," removing color and flavor along with the less desirable qualities.

I applaud anyone willing to go through this kind of time and expense to get clear beer. I'm not sure what sort of weird dementia would compel a person just jumping into a hobby to become so obsessive, but I applaud it.

For those of you who think buying a filtration system to cure chill haze is analogous to swatting a fly with a sledgehammer (a \$300 sledge hammer that has to be chilled before being used), there is the simple and relatively inexpensive alternative of using a clarifying agent.

As we discussed above, make sure you have your terms straight before going into your homebrew store and asking for some-



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thing to help clear your beer. Products like gelatin, Irish moss and isinglass are sold for clarifying beer, but they are designed to help hot break or yeast settle out of beer during fermentation; they do not affect chill haze. Clarifiers used to battle chill haze attack either the proteins or the tannins to prevent them from joining with one another and causing your beer problems. Proteins and tannins are kind of like you and your sibling on a family trip—sometimes you just have to be separated to avoid trouble.

The two additives you're most likely to run into used to chill-proof beer are plastic and silica gel. Another one is papain, which is extracted from the skin of the papaya, but I've never actually seen it in a homebrew store. Charlie Papazian talks about it in *The New Complete Joy of Homebrewing*, saying that papain is "difficult to find in an unadulterated state." I'm not sure what that means and he doesn't bother to explain, but unadulterated papain sounds rather scandalous. Papazian recommends specialty food shops. Look for the plain brown wrappers in a rack behind the counter. Expect nervous stares and a leering smile from the cashier.

Papain, whether adulterated or not, is a protein-degrading enzyme. It's also an ingredient of meat tenderizer. Miller warns that papain tends to "considerably" thin the body of the beer.

Finely powered plastic, actually polyvinylpyrrolidone or PVP, is commercially available under the brand name PolyClar. It removes tannins by acting like a tannin magnet as it settles out in your beer. The plastic


won't dissolve in the brew; it and the tannins stay behind when you bottle or keg.

Silica gel works in a similar fashion, but it eliminates proteins instead of tannins. The silica particles are actually microscopic honeycombs that suck up protein molecules and then settle out to form a sediment. Although not technically approved by the Food and Drug Administration for use in unfiltered beers (commercial breweries use it, but also filter their beer), it is a safe product and in fact has been approved by the FDA for use as a food additive. Go figure.

Like PolyClar, the silica stays behind when you rack your beer.

Both of these products are fairly inexpensive. In most homebrew stores and mail order catalogs, you can buy a couple of ounces for under \$5.

Whatever method you choose, keep in mind that brewing and learning how to brew are very similar processes. If you take a few extra steps when you first start, you will have a much better product in the long run. God is in the details.

New Orleans-based journalist James Slaton is a regular contributor to *Zymurgy*. 



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WORLD OF WORTS

Charlie Papazian

Slow Down Lager

Sometimes, I've got no moral to teach you with a certain recipe—it's just a really damn good beer. That's all that inspires me. I simply want to share it with everyone with some small hope that when I run out, maybe my neighbor Jim, or another brewer friend, will have found this recipe. Then I can continue to enjoy the pleasures of a particular brew, long gone from my own coolers.

Interestingly, however, a moral does develop from the enjoyment of this particular brew. Brewed with about 10% rice as an adjunct, this beer is unlike any American-brewed adjunct beer. It has body, malt foundation and a great hop character. For warm and hot weather indulgences, this homebrew is an image of perfection for hoppy Pilsener enthusiasts and a refreshing lager for those who're occasionally offended by the excessive impact of hop bitterness of many ales. I can assure all of you this brew was enjoyed by all my beer-drinking acquaintances who tasted it. Sadly, it didn't last very long, but it may very well be my next batch.

There is a Pilsener-style beer made in Thailand called Kloster, and this was my model. The general character has always stayed with me. Maybe it was the hot tropical climate; maybe it was the thirst. But I know it was the beer I remembered the most; a tad too light-bodied, but something I could improve on for my preferences.

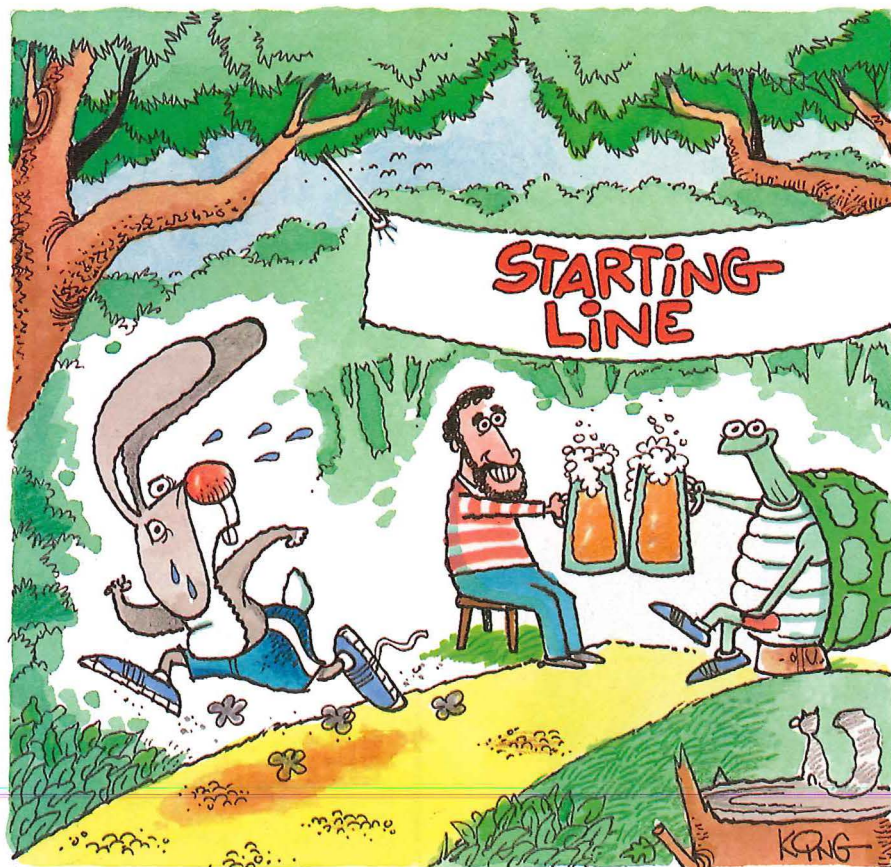
It was time to try a batch.

A crisp pilsener, my version would have a little more malt character, retaining the lightness of palate while providing a balance of hop flavors and a soft, yet mean-

ingful, bitterness that enhanced my enjoyment. Memorableness, aftertaste, linger, drinkability—call it what you want—my Slow Down Lager became everything I was looking for in a refreshing flavorful summer Pilsener. Including the freshness of an unfiltered, bottle-conditioned homebrew and a keg on draft.

One of the secrets of this brew is to use only low alpha hops in the latter part of the

boil, contributing a soft, rather than a harsh-sharp, sensation of bitterness and flavor on the palate. German grown Northern Brewers are also an essential ingredient in order to create a smooth drinkability not overshadowed with harshness. Lengthy lagering and a high temperature protein rest at 132 degrees F (53 degrees C) contributes to a densely rich foam character, an appeal to one's sense of justice to a brew well done.



It's a slow beer that does take a bit of patience. Lagering time at cold temperatures contributes immensely to the overall character. A good Pilsener or light lager yeast should be your choice, depending on your preference for a malt accented or a crisper drier beer.

It's springtime in America. The hot summer days are just around the corner. The first grass will need mowing soon. It's time to brew this beer. I guarantee that upon approaching your home each day after a stint at work, you'll immediately begin to think about that cold Slow Down Lager as you take those final steps across the threshold. Perhaps you'll pull an iced mug out of your freezer. Slowing down never seemed so appropriate and the *right* thing to do. To me, this beer is a good example of what life should be.

And the moral: adjunct beers can be exceptionally great beers.

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

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

This is an advanced brewing, partial mash and malt extract recipe.

- 2.5 lb two-row pale malt (grain) (1.14 kg)
- 0.75 lb rice flakes (rice flakes have tendency to have a smell reminiscent of rancid grains, but these aromas in no way effected the final smooth flavor of the beer) (340 g)
- 0.5 lb Vienna malt (225 g)
- 0.25 lb Cara pils or light German crystal malt (113 g)
- 2.5 lb extra light dried malt extract (1.14 kg)
- 0.6 oz German Northern Brewers (17 g) (5 HBUs/142 MBUs) pellet hops—60 minutes boiling
- 1 oz German Hersbrucker-Mittelfrüh (28 g) (4.5 HBUs/128 MBUs) pellet hops—20 minutes boiling
- 0.5 oz German Hersbrucker-Mittelfrüh (14 g) (2.25 HBUs/64 MBUs) pellet hops—10 minutes boiling
- 0.25 oz Czech Saaz (7 g) (1 HBU/28 MBUs) pellet hops—10 minutes boiling
- 0.25 tsp powdered Irish moss
- 0.75 cup corn sugar/glucose (180 mL) (priming)

Liquid Lager yeasts (Pilsener types with good attenuation)

- Original gravity 1.042 to 1.046 (10.5 to 11.5 °B)
- Final gravity 1.010 to 1.014 (2.5 to 3.5 °B)
- IBUs—about 29
- Approximate color: 4 SRM (8 EBC)

- Alcohol: 4.2% by volume
- Apparent yeast attenuation: about 73%

A step infusion mash is employed to mash the grains. Add four quarts (3.8 liters) of 136 degrees F (56 degrees C) water to the crushed grain, stir, stabilize and hold the temperature at 132 degrees F (53 degrees C) for 30 minutes. Add two quarts (1.9 L) of boiling

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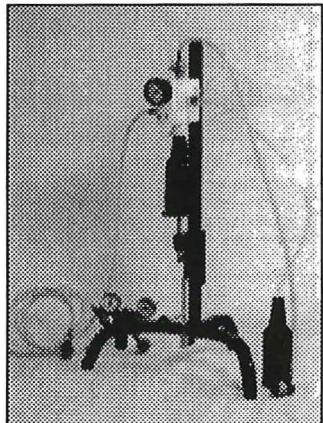
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Ingredients

Hops:

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- DeWolf-Cosyns (Belgium)
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water and add heat to bring temperature up to 154 degrees F (67.5 degrees C) and hold for about 30 minutes.

After initial rest, raise temperature to 158 degrees F (70 degrees C) and maintain for another 30 minutes. Then raise temperature to 167 degrees F (75 degrees C), laut (take caution to laut slowly as the rice flakes tend to encourage stuck runoffs) and sparge with 2 gallons (7.6 L) of 170 degrees F (77 degrees C) water. Collect about 3 gallons (11.4 L) of runoff and add the malt extract and bittering Northern Brewer hops and bring to a full and vigorous boil.

The total boil time will be 60 minutes. After 40 minutes add one ounce (28 g) German Hersbrucker-Mittlefrüh (4.5 HBUs/128 MBUs) hop pellets. When 10 minutes remain add .5 ounces (14 g) German Hersbrucker-Mittlefrüh (2.25 HBUs/64 MBUs) pellet hops and .25 ounces (7 g) Czech Saaz (1 HBU/28 MBUs) pellet hops and Irish moss. After a total wort boil of 60 minutes, turn off the heat. Then strain and sparge into a sanitized fermenter to which you've added 1.5 gallons (5.7 L) of water. It helps to prechill (33 degrees F (1 degree C)) the water added to the fermenter rather than simply adding warmer tap water.

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HOMEBREW BITTERING UNITS (HBUs)

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

INTERNATIONAL BITTERNESS UNITS (IBUs)

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

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

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

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

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

IBU bitterness of about 29 IBUs were calculated for this recipe by making the following assumptions: (1) pellet hops were used, (2) the wort boil was a concentrated boil with about 2 to 2.5 pounds (1.1 kg) of extract per gallon (3.8 L) of liquid boiled.

Pitch a good dose of healthy active lager yeast and primary ferment at temperatures between 50 and 55 degrees F (10 and 12.5 degrees C) and lager between 35 and 40 degrees F (2 and 4 degrees C) for one month.

Prime with sugar and bottle when fermentation is complete.

And please, please remember to slow down as you enjoy the embodiment of what slow pleasures are all about. You deserve it.

Charlie Papazian is the founding president of the Association of Brewers and author of *The New Complete Joy of Home Brewing* (Avon 1984, 1991), *The Home Brewer's Companion* (Avon 1994), and *Home Brewer's Gold* (Avon 1997), a book of prize-winning recipes from the 1996 World Beer Cup Competition.

THE BEST FROM KITS

Tom Judd

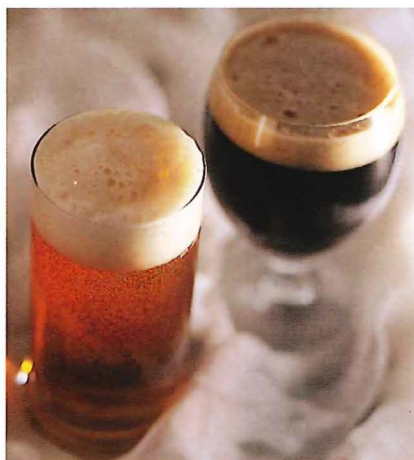
Halloween Experiences *with Muntons' Ale Kits*

It is dark and late, and a cool, steady gale blows across the rooftops and back alleys of Boulder, Colorado, home of both the AHA and *Soldier of Fortune* magazine. A dark figure jumps from a car and begins passing two parcels from his idling vehicle into a small sports car. The small sports car rumbles to life, turns in the opposite direction and disappears into the dark evening mist.

I was the driver of the “getaway” vehicle, and the suspicious cargo was two Muntons Premium Gold ale kits for my girlfriend and me to brew and evaluate.

The two kits provided us in that dark rendezvous were “Smugglers Special Premium Ale” and “Old Conkerwood Black Ale,” two of Muntons’ newest offerings. Our first impressions of these two kits were that they came in abnormally small boxes. “How could these puny things hold the ingredients for a five-gallon batch of beer?” we both thought out-loud.

Having been a brewer for some years, I’ve grown accustomed to the “cracked barley, crystal malt, bulk malt extract, packaged hop, etc.” homebrewing method (what many call ‘intermediate’ brewing), so the lack of many ingredients naturally took me by surprise. When the kits were opened, we were even less impressed. Two non-descript (absolutely unmarked) 1.5-quart (1.42 L) steel cans of hopped malt extract and a small packet of dry yeast were the only inhabitants of these downsized packages.



Minimalist Instructions

The instructions were simple; you pour the hopped malt extract into your sanitized fermenter (a six-gallon, (23 L), plastic bucket), add 1.5 gallons (5.68 L) of hot water, pour in enough cold water to make something to the effect of six “Imperial Gallons” (instructions were in the “prau-pau” Kings English, you know) then pitch the yeast. That’s it.

Given the relative ease this brew session promised to afford, we decided to brew both batches on the same evening. Our long-term plan was to offer these beers at our upcoming Halloween party, the biggest event of the year for Susan, my

housemate/significant other. We began by boiling two pots of water (1.5 gallons each), sanitizing the fermenters and warming the unopened, blank steel cans of hopped malt extract in hot tap water (previously ensuring they were marked as to what went where). When the water came to a boil, the malt was discharged into the rinsed fermenters, with the boiling water dutifully following. We then thoroughly mixed in the most generic bottled drinking water we could find, bringing the contents to the specified amount. For the scientific, initial gravity was checked with the “Smugglers” at 1.050, and the “Old Conkerwood” coming in at 1.045. The yeast was properly “started” and was pitched as directed. Lids were fastened and fermentation locks attached. The sealed plastic fermenters were then placed in a warm room approximately 75 degrees F (24 degrees C), to work their expected magic.

Worrisome Signs

By the second day after pitching, we were starting to worry—no sign whatsoever of fermentation; no bubbles, no familiar fermenting malt smell, ferm locks dead level—nothing. A day later, we made the decision to pitch some “known good” Muntons dry yeast (a quality dry yeast I’ve

used with success many times before and the same brand name as the kits), freshly purchased from our local brew store. We "started" the yeast in the directed manner and readied for pitching.

When the fermenter lids were popped, we were taken aback to see the telltale Kraeusen ring present, hinting that the brew had, behind our backs and without our knowledge, indeed fermented as promised.

Okay, overnight fermentation has been known to happen. All the books have stories of said events occurring, suggesting we should "relax, not worry and have a homebrew."

Come on! Really? We, being of little faith, made the decision to go ahead and pitch the new yeast anyway. By the next morning, the "Smugglers" was obviously cranking, but the "Old Conkerwood" still seemed "stuck." After a few days of waiting, we decided to try that old last resort standby, science. The specific gravity was checked, and low and behold (i.e.; despite all indications to the contrary), the black ale was 1.018! It must have finished fer-



menting in less than a day (overnight, to be precise.)

Four days later (seven days from their brewing), we checked the readings, and they were identical for both brews, 1.016; just about what the instructions said they should be for a finished gravity reading.

The Acid College Student Test

Now, we usually bottle our beer, but this time was to be different. We borrowed some kegging equipment from a friend so we could serve the brew to our

Halloween guests in bulk fashion and without the bottling headache. On Halloween eve, the kegs were placed in ice buckets marked as to what exactly they dispensed, ready for the "acid test" of college students. And not just any college students, either, but graduate students with incredibly boring majors.

Well, the party was a big success and the "Smugglers Special Premium Ale" was the hands down winner of the taste test. In the majority opinion, it was smooth, hoppy and flavorful, but not too bitter for the average beer swiller (of which there was an abundance at this particular affair). The "Old Conkerwood Black Ale," on the other hand, didn't win any medals with this very mixed crowd. It was not as "Black" tasting as it looked, masquerading itself in looks as a big, bold chewy porter or stout, only to be found a bit dull and tasteless for me and most others with an opinion. The kits did completely surprise us though. They initially appeared to us a pathetic excuse for anything even resembling a brew kit, but turned out almost too easy to brew, producing just downright drinkable stuff (despite being "yeasted" twice) and far, far ahead of most commercially bottled ales (not a big surprise to most homebrewers.)

As far as the "Smugglers Special Premium Ale" goes, I'd try it again, if it wasn't for the complete embarrassment of its simplicity—I have a need to complicate everything I do. The "Old Conkerwood Black Ale," on the other hand, would need some help before gaining acceptance among most homebrewers I know.

So the next time someone offers stealthy packages in the thick of the night on a dimly lit downtown side street, if it's from the AHA, hey, we'll take 'em, and I have no doubt we'll once again enjoy a most excellent homebrew.

POSTSCRIPT: The leftover keg of "Old Conkerwood Black Ale" is, in fact, getting better as it sits in the refrigerator. It's been a month since the Halloween party, and it's starting to taste pretty good. Maybe there is something to this minimalist brewing!

Longtime homebrewer Tom Judd is NOT a freelance writer, lives near Boulder, CO, and enjoys great homebrew whenever possible.



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WINNERS

C I R C L E

Amahl Turczyn

Spring is in the air, and so should be the delicious aromas of boiling malt and hops. Here are more award-winning recipes from the 1997 National Homebrew Competition. This collection represents a wide variety of styles and strengths: from Terry Durant's refreshing "Cruzin' Cream Ale" to Daniel Darnell's powerfully malty Scotch ale, "Kilt Lifter." This is just about the right time to get started on a spiced mead for the holidays later this year, and what better choice than Eric and Woody Drake's "Apple Pie Metheglin"? Or for those celebrating Saint Patrick's Day, how about a silky black pint of David Zuckoff's "Breakfast Stout"? Gentlemen and ladies, start you burners!

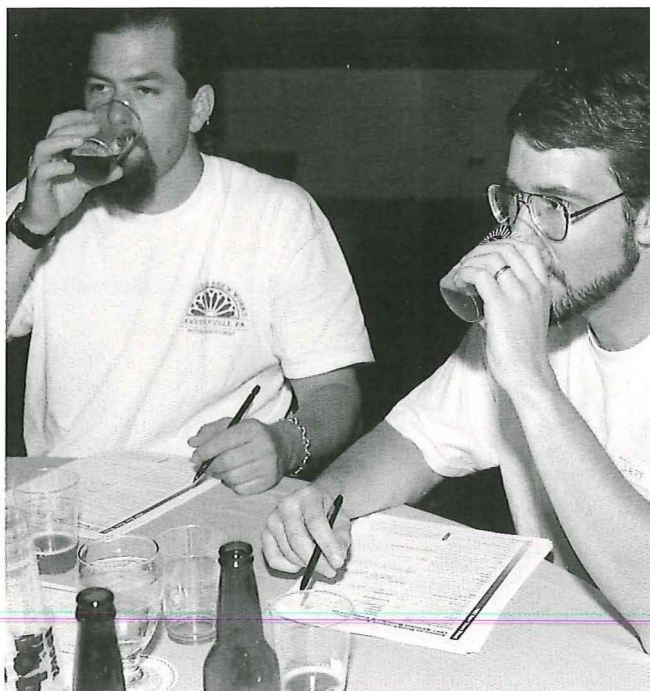


PHOTO BY RICHARD J. LUBRANT
ILLUSTRATIONS BY JOHN MARTIN

AMERICAN LAGER



BRONZE MEDAL

AHA 1997 NATIONAL HOMEBREW COMPETITION

Terry Durant
Westminster, Colorado
"Cruzin' Cream Ale"
American Cream Ale



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

- 6 lb American six-row malt (2.72 kg)
- 2 lb German wheat malt (.91 kg)
- 3/4 oz Cascade hops, 5.5% alpha acid (34 g) (50 min.)
- 1 oz Northern Brewer hops, 8% alpha acid (28 g) (50 min.)
- Wyeast No. 1056 American ale yeast
- 1 1/4 cup dry malt extract (296 mL) (to prime)

- Original gravity: 1.040
- Final gravity: 1.004
- Boiling time: 70 minutes
- Primary fermentation: 14 days at 64° F (18° C) in glass
- Secondary fermentation: 14 days at 64° F (18° C) in glass
- Age when judged: six months

Brewer's Specifics

Mash grains at 154° F (68° C) for 60 min.

Judges' Comments

"Faint fruitiness, corn flavors. Good balance with the hops. Nice silky feel to this beer. Has lots of good clean up-front flavors. Yes sir, may I have another?"

"Good thirst-quenching beer."

Brewer's Comments

"Always keep it simple. Never make the brewing process any more difficult than it needs to be. I've managed to reach the second round three times in a row with this recipe and brewing process."

ENGLISH- AND SCOTTISH-STYLE ALE



SILVER MEDAL
AHA 1997 NATIONAL HOMEBREW COMPETITION
Daniel Darnell
Penn Valley, California
"Kilt Lifter"
Strong Scotch Ale

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

- 8 lb Harrington two-row malt (3.63 kg)
- 4 1/2 lb English two-row malt (2.04 kg)
- 2 lb amber dry malt extract (.91 kg)
- 1 lb 90° L Scottish crystal (.45 kg)
- 1 lb dark brown sugar (.45 kg)
- 1/2 lb peated malt (.23 kg)
- 2 oz Willamette hops, 5% alpha acid (57 g) (60 min.)
- 1/2 oz Kent Goldings hops, 4.9% alpha acid (57 g) (30 min.)
- Wyeast No. 1728 Scottish ale yeast
- forced CO₂ to carbonate

- Original gravity: 1.094
- Final gravity: 1.025
- Boiling time: 90 min.
- Primary fermentation: nine days at 68° F (20° C) in glass
- Secondary fermentation: seven weeks at 68° F (20° C) in glass
- Tertiary fermentation: 19 days at 35° F (2° C) in steel
- Age when judged: eight months

Brewer's Specifics

Mash grains at 122° F (19° C) for 30 min. Raise temperature to 158° F (70° C) for 25 min. Mash out at 168° F (76° C). Add malt extract and sugar at the beginning of boil.

Judges' Comments

"Maltiness and alcohol. Malt to hop balance is good. Very good beer."

Brewer's Comments

"I really enjoy the warming effect of a good barley wine. I already had a Scottish ale yeast going and thought it might be fun to make this style. I wanted to experiment with peated malt and some recipes included dark brown sugar, so I included that also. As the name implies, it can really sneak up on you!"

ENGLISH-STYLE PALE ALE



SILVER MEDAL
AHA 1997 NATIONAL HOMEBREW COMPETITION
Joseph Styke and Tom Stawarz
Roseville, Michigan
"I.P.A. #3"
India Pale Ale

Ingredients for 5.5 U.S. gal (20.8L)

- 5 lb American 2-row malt (2.27 kg)
- 4 lb Alexander's pale malt extract (1.81 kg)
- 1 lb Belgian Cara-pils malt (.45 kg)
- 1/2 lb 40° L crystal malt (.23 kg)
- 1/2 lb extra light dry malt extract (.23 kg)
- 2 oz Nugget hops, 14.1% alpha acid (57 g) (75 min.)
- 1 oz Centennial hops, 10.7% alpha acid (28 g) (20 min.)
- 1 oz Centennial hops, 10.7% alpha acid (28 g) (5 min.)
- 1/2 oz Fuggles hops, 3.2% alpha acid (14 g) (dry, 10 days)
- Wyeast No. 1056 American ale yeast culture
- 3/4 cup corn sugar (177 mL) (to prime)

- Original gravity: 1.069
- Final gravity: 1.013
- Boiling time: 75 min.
- Primary fermentation: 10 days at 70° F (21° C) in glass
- Secondary fermentation: 10 days at 66° F (19° C) in glass
- Age when judged: six months

Brewer's Specifics

Mash grains at 155° F (68° C) for 70 min. Boil extracts with wort for 60 min.

Judges' Comments

"Clean hoppiness, fades to spicy fruitiness. Clean, dry aftertaste. Great job. Keep it up!"

"Very good hop bitterness and flavor. Excellent beer."

Brewer's Comments

"We like to give it to Dry/Red/Lite/Ice drinkers and watch 'em make faces."

SPECIALTY BEER



BRONZE MEDAL
AHA 1997 NATIONAL HOMEBREW COMPETITION
David B. Zukoff
Alvin, Texas
"Alvin Style Breakfast Stout"
Classic Style Specialty Beer

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

- 8 lb American two-row malt (3.63 kg)
- 2 lb flaked oats (.91 kg)
- 1 lb chocolate malt (.45 kg)
- 1 lb black barley (.45 kg)
- 1 lb black patent malt (.45 kg)
- 1 oz Northern Brewer hops, 7.4% alpha acid (28g) (60 min.)
- 1 oz Willamette hops, 4.3 % alpha acid (28 g) (60 min.)
- Wyeast No. 1056 American ale yeast
- 1 cup corn sugar (237 mL) (to prime)

- Original gravity: 1.067
- Final gravity: unknown
- Boiling time: 60 min.
- Primary fermentation: six days at 72° F (22° C) in glass
- Secondary fermentation: 18 days at 38° F (3° C) in glass
- Age when judged: five months

Brewer's Specifics

Mash grains at 157° F (69° C) for 60 min.

Judges' Comments

"A cornucopia of flavors. The coffee compliments all flavors."
"Well-made beer. Maple in there, but not overwhelming."

Brewer's Comments

Not available.

CALIFORNIA COMMON BEER



SILVER MEDAL
AHA 1997 NATIONAL HOMEBREW COMPETITION
Jim Dilldine
Craig, Colorado
"Cold Springs Steamer"
California Common Beer

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

- 8 lb Klages two-row malt (3.63 kg)
- 1 lb 80° L crystal malt (.45 kg)
- 1 oz Cascade hops, 4.3% alpha acid (28 g) (60 min.)
- 1 oz Northern Brewer hops, 7.1% alpha acid (28 g) (60 min.)
- 1/2 oz Cascade hops, 4.3% alpha acid (14 g) (15 min.)
- 1 oz Cascade hops, 4.3% alpha acid (28 g) (2 min.)
- Williams Bay Area lager yeast
- 3/4 cup corn sugar (177 mL) (to prime)

- Original gravity: 1.044
- Final gravity: 1.008
- Boiling time: 60 min.
- Primary fermentation: 14 days at 64° F (18° C) in glass
- Secondary fermentation: 14 days at 64° F (18° C) in glass
- Age when judged: seven months

Brewer's Specifics

Mash grains at 156° F (69° C) for 60 min.

Judges' Comments

"Balanced, clean, drinkable beer."
"Nice toasty character. A little more hops would help a lot."
"Toasted malt lingers in the finish. Good effort."

Brewer's Comments

Dilldine, who used an overnight mash for this recipe, got the idea from the time saving tips in the 1995 Special Issue of *Zymurgy*. He feels this beer is great to enjoy any time of the year—from under a shade tree in the heat of summer, to a steaming hot tub in the chill of winter.

HERB AND SPICE MEAD



BRONZE MEDAL
AHA 1997 NATIONAL HOMEBREW COMPETITION
Eric and J. Woody Drake
Columbus, Ohio
"Apple Pie Metheglin"
Sparkling Metheglin

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

- 10 lb clover honey (4.54 kg)
- 2 gal. apple cider (7.57 L)
- 3 tsp cinnamon (14.8 mL)
- 2 tsp nutmeg (9.9 mL)
- 8 whole cloves
- Red Star Champagne yeast
- 1/2 cup corn sugar (118 mL) (to prime)

- Original gravity: 1.081
- Final gravity: 1.010
- Boiling time: 45 min.
- Primary fermentation: 30 days at 73° F (23° C) in glass
- Secondary fermentation: 30 days at 73° F (23° C) in glass
- Age when judged: seven months

Brewer's Specifics

In addition to the spices added to the boil, Drake adds three cinnamon sticks and five whole cloves to the secondary fermenter. This two-stage spicing produces a much rounder, fuller spice profile.

Judges' Comments

"Apple pie like aroma from the spices. Finish is fairly clean and doesn't linger."

"A mead with a lot of apple cider character. Nice work."

Brewer's Comments

Not available.

Every gold-medal winning recipe from the AHA 1994 National Homebrew Competition was printed in *Zymurgy* Special Issue 1994 (Vol. 17, No. 4) "Winners Circle."



WEISSE IS NICE Club-Only Competition Winner



Bill Aimonetti
Tijeras, New Mexico
Representing the Albuquerque
Dukes of Ale
Binetti Hefe-Weizen
German-Style Weizen/Weissebier

Ingredients for 10 U.S. gal (38 L)

- 9 lb German wheat malt (4 kg)
- 8 lb English two-row pale malt (3.6 kg)
- 1 oz Saaz hops, 4.8% alpha acid (28 g) (120 min.)
- 1/2 oz Saaz hops, 4.8% alpha acid (14 g) (90 min.)
- 1/2 oz Saaz hops, 4.8% alpha acid (14 g) (60 min.)
- Wyeast No. 3068 Weihenstephan Wheat ale yeast
- 1/2 gal unfermented wort (speise) to prime

- Original gravity: 1.055
- Final gravity: 1.012
- Boiling time: 120 min.
- Primary fermentation: 7 days at 63° F (17° C) in glass
- Primary fermentation: 7 days at 68° F (20° C) in glass
- Age when judged: 6 months

Brewer's Specifics

Employ a double decoction mashing process. Begin mashing at 105° F (41° C), then raise to 122° F (50° C) for 25 minutes. Pull a 40% decoction, heat that to 160° F (71° C) for 15 minutes, then bring it to boiling for 20 minutes. Re-combine decoction at 147° F (64° C) for 20 minutes. Raise to 160° F (71° C) for 30 minutes, then to 170° F (77° C) for mash-out.

Judges' Comments

"Nice esters, nice phenols, good balance of both."

Brewer's Comments

Aimonetti advises, "Do not aerate wort during decoction mash. Ferment under 65° F (18° C) for this yeast, or you will get too much banana phenolic and possibly sulphur."

Amahl Turczyn has been homebrewing since 1985 and professionally brewing since 1995. He compiled *A Year of Beer* (Brewers Publications, 1997) and is the AHA Project coordinator.

Professor Surfeit

DEAR

P R O F E S S O R

Breaking Ball Slow Pitch

Dear Professor Surfeit,

Yeast! Can't live with it, can't live without it. Just when I think I've finally got a handle on this yeast thing, I get thrown another curve. Here's the deal:

For years I've been using only liquid yeast and growing it in a starter for a day or two before pitching. I aerate the wort with an aquarium pump, micron filter and stone system and I always get quick airlock activity, vigorous fermentation and (I thought) pretty good attenuation.

Lately, since I'm confident in my sanitation techniques, I've been brewing back-to-back batches and repitching slurry from the first batch into the second. What is happening is I'm getting consistently greater gravity drops in the second fermentation, even when using identical recipes, temperatures and techniques.

For example, I brewed two maple ales with matching OG's of 1.062. The first one finished at 1.032 and the second at 1.014 using an American ale yeast strain. Next, I brewed an imperial stout with an OG of 1.094 and then an old ale with an OG of 1.080. The stout dropped to 1.034 and the second run old ale dropped to 1.014, both using an Irish ale yeast.

Does this difference in proportional drop have to do only with quantity of yeast pitched? I sometimes put as much as a pint of thick slurry into the second beer. Or am I creating a healthier, more vigorous breed of yeast after growing it in a six-gallon carboy for a week or two rather than in a quart bottle for a day or two?

My starter medium is a quart of water boiled with five tablespoons of dry malt extract. Should I change the gravity of this starter? Should I grow the yeast longer and feed it more starter for a few more days? Did I read once that there is a "window of opportunity" in yeast growth in consecutive runs where the yeast is best after the first few uses and up until you risk contamination in the last few, say around batch No. 10 or so? If so, how does an individual homebrewer making five-gallon batches maximize yeast performance? I brew such a variety of styles that I want to use appropriate yeast strains

and not commit to just one strain, regardless of how healthy it is. Any suggestions?

Thanks sincerely,
Brad Hunter
Appleton, Maine

Dear Brad,

Your observations make complete sense. It happens to me quite frequently. Getting optimal yeast attenuation is the goal of all brewers. When you start out a batch of beer with less than an optimal amount of pitched yeast you're essentially asking fewer yeast to do more.



They try to do their job. They make great-tasting beer. But perhaps the end result is not what the yeast were optimally measured up to be due to what I call the "stress" factor. We stress our initial yeast population in an attempt to get it to do more than they were designed to do. With an optimal amount of yeast slurry, let's say about one cup of slurry for a five- or six-gallon batch, you have healthy, happy yeast to begin with and you're putting them up to a task they were designed to complete effectively.

So where does that put brewers like you and me who don't always have a cup of fresh yeast slurry to repitch? I do the best I can, giving the wort good aeration and essentially giving the yeast all the support I can provide. Perhaps treating the yeast to a higher fermentation temperature to start out with (the 67 to 72 degree F range or 19 to 22 degrees C for all yeast) until they get a hold on life, so to speak, then gradually lowering the temperature over 24 hours after I see the first signs of fermentation. It also helps to pitch a yeast culture just at the time of high krausen, giving it a good running start at the task ahead. Longer lagering or, in the case of ales, longer cellaring will provide more time for the yeast to finish out. But really, the final gravity is very much determined by the initial health and quantity of yeast you pitch.

Keep in mind it's difficult to generalize with yeast because it varies in behavior so greatly from one variety to another.

*Son of a pitch,
The Professor, Hb.D.*

Mead Me Soon

Dear Professor Surfeit,

I tried a couple of mead recipes and have some questions. The first batch is a traditional mead – just honey, water, yeast and yeast nutrient. I started it about six months ago. It completed fermentation about four months ago, but still has not cleared. Fermentation temperature was about 70 degrees F (21 degrees C). Should I wait longer for it to clarify or add a fining agent? If fining, which products would you recommend?

If you bottle a still mead in wine bottles, do you have to add a stabilizing agent?

The second batch was Charlie Papazian's Barkshack Ginger Mead with raspber-

ries. It is about four months old. I racked it to a clean carboy about two months ago and it tasted very good. I'm anxious to bottle it. How much longer would you estimate it will take? I'm going to make this sparkling mead in Champagne bottles.

Thanks in advance for your comments.

Mac
MACWYLIE@aol.com

Dear Mac,

Your still mead hasn't cleared? Why? I, too, wish I could predict this because every so often my mead doesn't clear easily either. My guess is the source of honey contributes to compounds that promote haze. I usually have success in slowly clearing up my hazy meads with a dash of pectin enzyme, available at homebrew supply shops. The liquid stuff really breaks down pectin haze quite effectively over a couple of months. Other than that you could chill it and see if anything drops out. Make sure your fermentation lock is "locked" with water, preventing airborne microorganisms from infiltrating and doing a number on the clarity of the brew. That's happened to me before. Clear mead one month, hazy mead the next because of evaporation of water in the airlock. Time and patience eventually will clear this 14-percent-alcohol mead, with little damage to flavor.

Bottling still meads without a stabilizer is my own preference. I just observe the mead, and when there is no fermentation activity I don't worry about refermentation in the bottle.

Because your raspberry mead is going to sparkle, you can certainly bottle any time fermentation stops. As in beer, refermentation in the bottle will throw a sediment, so it isn't as critical to have crystal clear mead before bottling, as with still mead. My guess is that your raspberry mead is clear. It may still be fermenting a tiny bit, but not enough to over-carbonate in the bottle. Gopher it.

*Purple haze,
The Professor, Hb.D.*

A Fruity Bet

Dear Professor Surfeit,

A member of our brew club swears on a stack of *Zymurgys* that the best time to add

fruit or dry hops to beer is at high krausen. He says this is the time of maximum alcohol production and therefore the risk of infection is least. I maintain the best time to add fruit or dry hops is at the completion of fermentation, when maximum alcohol is present, pH is lowest and available sugars have already been gobbled up by the yeast. The only advantage I see at high krausen is the volume of CO₂ being created produces an updraft of gas that keeps airborne organisms from falling into the beer. What do you say, oh great one?

Sincerely,
Fred Westendarp
Tempe, Arizona

Hi Fred,

Swearing on a stack of Zymurgys. What a concept. I'll have to try it sometime and see if my beer gets better or worse.

You know, I'm with you. I figure after the beer is pretty much fermented, the pH has dropped and the wort is less susceptible to a microorganism takeover. My theory is if the fruit is put into the wort during high fermentation then a lot of the aromatics may be "scrubbed" out of solution by the escaping carbon dioxide. Also, the yeast will absorb some of the flavors as well. My preference is to add fruit when racking to a secondary fermenter. I like to add fruit to the hot wort to pasteurize it if I suspect the fruit is "dirty" with organisms. But for the best fruit flavor add it crushed during secondary fermentation.

*Great stuff, eh?
The Professor, Hb.D.*

Running Off at the Mouth

Dear Professor,

I've been an off and on all-grain brewer for about three years. When all-grain gets too difficult I grab my wife's best Tupperware™ and head to the homebrew shop for a malt extract syrup refill. Lately, I've been doing this a lot. It seems I've got a cloud problem.

I'm using a five-gallon round cooler as a mash/lauter tun. I replaced the original valve with one that allows me to control the flow. I use a plastic food strainer as a false bottom.

When it is time to lauter, I recirculate wort from the bottom to the top. I improvise a gravity feed setup in the kitchen.

I lauter according to *The New Complete Joy of Home Brewing* (Avon 1991), but I'm still winding up with cloudy wort. I've tried boiling up to 80 minutes. I've tried Irish moss, which I don't like using at all. Nothing seems to work.

What can I do to get that clear beer I get when I use syrup?

Thanks,
Michael C. Cox
VAFB, California

Dear Michael,

The solution is probably quite simple: slow down your runoff. A slower initial draw will help set up a natural mash filter. Then continue to recirculate the runoff (typically about three to four quarts) until it becomes relatively clear. Continue to regulate the flow so it doesn't take off to the races. I might also guess the holes in your plastic food strainer are not adequately proportioned to capture pieces of grain and husk, yet continue to let the liquor flow through. You may have to stroll on down to your friendly local homebrew shop and buy a relatively inexpensive false bottom strainer especially made for round coolers and buckets. I think you'll find the process conquerable with a bit of homebrew.

Here's a little trick I've begun using for my five-gallon batches. Rather than regulate the flow of mash runoff with a constricting valve (which gets clogged with pieces of mash grits), I use no valve whatsoever, but regulate the flow rate by raising and lowering the level of the "out" hose and receiving vessels. It works way cool.

*Cool runnings — hot wort — cold beer,
The Professor, Hb.D.*

From the Z-Files

Dear Professor Surfeit,

I am a novice homebrewer, having just finished my sixth batch of beer. By the time I placed all the ingredients in my five-gallon carboy and put the rubber stopper in place,

the carboy was so full some of the wort spilled out when I put the stopper on. I put the beer-to-be in a warm place in my house to ferment. Two hours later when I went to check, the liquid level in the carboy had dropped about two inches. This is the second time I have observed this phenomenon!

What is going on here? The stopper does have a hole, but it drains through a hose into a quart jar so there should be no loss of volume through evaporation. The temperature is within 5 degrees of when the stopper was first put in place. I am pretty knowl-

edgeable about scientific concepts, but I am at a loss to explain this.

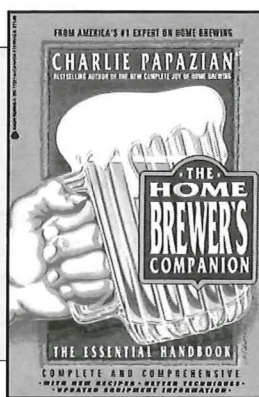
Not worried, just wondering,
Margaret Groat
Ava, Missouri

Dear Margaret,

I looked this one up in my library and had to go all the way back to the end of the cave where I keep my zymotonic files of wisdom for the ages, now, then and in the future. Sounds weird, but I'm just figur-

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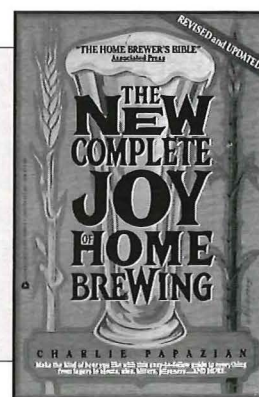


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ing you're doing all the right things. One being that you're shaking the makings and getting a lot of dissolved air into the wort. Well, what's happening is probeerably that you are saturating the wort and not all the air is dissolving. All those teensy weensy bubbles take their sweet time to make their way to the top of the wort and when they do they book it, I mean they are out of there. The space the bubbles occupied in the wort finds its way to the surface and creates an air space. The wort in the top space got put where the bubbles were. You got magic and I ...

*Got Beer!
The Professor, Hb.D.
(yaboo!)*

There's No Stumpin' the Professor

Dear Professor,

I've got a question that has stumped every expert and reference book so far. It is really driving me crazy that I can't find an answer anywhere. The question is how do you determine how much lactose to use to sweeten a beer?

The Doctor
via e-mail

Dear Doctor,

Hells bells. That's an easy question to answer. Taste it. I mean, take out 12 ounces of ready-to-bottle beer, dissolve a measured amount of lactose in water. Continue to take note of additions and measurements and add the lactose solution until you like the taste. Then do some simple arithmetic and ratchet the quantities up to dose a full five-gallon batch.

I'm not being flippant. That's exactly the way I'd do it!

*How sweet it is,
The Professor, Hb.D.*

The Legend Lives

Dear Professor Surfeit,

Regarding Joseph Kurtz's recipe for Ballantine India Pale Ale (*Zymurgy* Spring 1997 Vol. 20, No. 1), I hate to disagree with the horse's mouth, but I think he was wrong on more than one count.

Although I haven't drunk any Ballantine for decades, I clearly remember their beer and ales because they were the first to knock my taste buds for a loop. For one thing, I swear Ballantine originally called their premier brew "Pale India Ale" because I had trouble with the correct designation of this style when I began serious homebrewing years later. More importantly, there is no way this robust dark brew was made with 43

percent adjunct, only 5 percent caramel malt and such a small amount of bittering hops. Kurtz's recipe much more closely fits the taste I remember for Ballantine's XXX Ale.

If I were to venture a guess, I'd say that Ballantine's Pale India Ale also was enhanced with oak chips or aged in oak barrels. Can anyone settle this question?

William Moake
Kurtistown, Hawaii

Dear Professor Surfeit,

The discussion of Ballantines in *Zymurgy* Spring 1997 (Vol. 20, No. 1) was very energizing, and the editor was thoughtful enough to include a recipe from Joe Kurtz of Ballantines. That recipe makes an outstanding beer, but a few points need clarification. The pale malt actually is six-row pale. The corn grist, from an animal feed store, has to be boiled for one hour to gelatinize, or replace the grits with flaked maize for no boiling. A protein rest at 118 degrees F (48 degrees C) is an absolute requirement. No sugar is needed. The beer has to lager for seven weeks to bring out that fantastic flavor. I brewed some and named it "1907."

Thanks!
Joe Kish
jjkish@worldnet.att.net

Dear Joe and Bill,

Thanks for the drinkback. I don't think there is any American beer that inflames so much passion as the legendary Ballantine India Pale Ale. As long as I've been writing this column brewers and beer enthusiasts have argued long and thirsty over the right to say they know what really was going on. I for one recall tasting some of this legendary beer. My taste buds weren't as educated as they are now, but it was indeed memorable.

Aging in oak, yes, it might well have been, but as with all beer aged or fermented in wood, the tanks are lined with brewers pitch and the beer never comes in contact with the wood. I would have to disagree somewhat with your opinion, Bill, that the use of adjunct precludes the possibility of a robust beer. It can be done with careful processing of malt and good hop character.

*The legend continues,
The Professor, Hb.D.*



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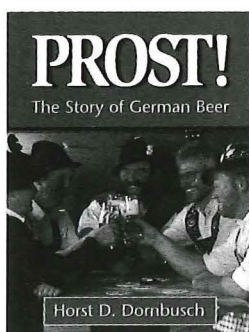
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Prost!

Prost! is Horst D. Dornbusch's "Story of German Beer." In 148 pages, Dornbusch gives the reader a succinct history of the German brewing industry, starting about 3,000 years ago (before there was such a thing as Germany) and continuing through the present day.

Although Dornbusch does not divide his book as such, *Prost!* has two distinct sections. The first eight chapters (slightly more than half the book) are a detailed history of the social and political forces that helped to shape the German brewing industry. The last five chapters are a discussion of specifics and science of modern German brewing (e.g., how beer is made, what sets German beer apart from British beer, etc.) Because these two parts of *Prost!* have such different focuses, it makes sense to discuss them separately.

More than a story about brewing, the first eight chapters are really about changes in the social and political fabric of Germany. These chapters are written in a narrative style and tell the story of the main players in the history of the German brewing industry.

I found it quite interesting to follow along as Dornbusch explained the intricate path of the German brewing industry—who controlled brewing rights, taxation, distribution, etc. Although I found these chapters to be interesting and well written, I think that they appealed more to the history buff and sociopolitician in me than the beer lover.

Chapters nine through thirteen, because they relate more specifically to beer and brewing, are more likely to appeal to the general beer lover. Chapters nine and ten were my favorites in the book (although, in fairness, I enjoyed most every chapter). Chapter nine is dedicated to describing the advances in science and technology that made modern day brewing possible. Among the topics discussed in this chapter are advances in temperature control, understanding yeast as a fermenting agent and the first use of hydrometers to measure specific gravity.

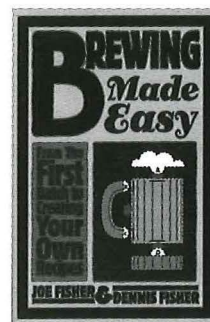
Chapter ten, entitled "Beer Making for the Uninitiated," is a concise description of the process of turning raw ingredients into beer. Although this chapter is quite compact (only seven pages), the author does an extremely good job of explaining the basics, and even highlighting some of the finer points, in a manner that's clear and easy to read.

The last three chapters, eleven through thirteen, are dedicated to explaining the categorization of beer. Chapter eleven gives the reader a general overview of subclassifications within the modern German beer market, including a few legal notes and an overview of the styles one finds in modern German beer. Chapter twelve discusses German ale styles, and chapter thirteen discusses German lagers.

All-in-all, I found *Prost!* to be well written and easy to understand. That much said, I have only one hesitation recommending *Prost!* As I have mentioned, the first eight chapters and the last five chapters differ quite strongly in both style and content. If you are interested in reading about the social and political pressures that shaped the history of German brewing, with a brief explanation of the current state of German brewing, *Prost!* is the book for you.

Prost!, written by Horst D. Dornbusch, 146 pages (including 22 pages of chronology, glossary and references). *Prost!* is published by Brewer's Publications and sells for \$14.95.

Reviewed by Garshom L. Arkoff. Garshom has been homebrewing since 1993, and won a bronze medal in the 1994 NHC. In real life, Garshom is studying for his MBA at Sonoma State University and is doing his graduate research through the Craft Brewing Business Institute.



Brewing Made Easy

Brewing Made Easy (Storey Publishing 1997) is Joseph and Dennis Fisher's 85-page introduction to homebrewing. *Brewing Made Easy* begins with a section detailing how to

brew and bottle your first batch of homebrew from extract and includes a recipe for English bitter. The following chapter gives a brief introduction to ingredients and recipe formulation. The next two sections focus on brewing equipment and brewing tips. The book concludes with 22 recipes, a glossary and three indices.

The authors' writing style is best described as "no frills." Every section of the book contains just enough information to cover the topic and no more. Fisher and Fisher's philosophy is to give the reader the what and how, but to leave the why for other books.

The first chapter, "Brewing With Malt Extracts," is the strongest section. The directions are clear and concise, making for easy reading before and even easier reference on brewing day.

The sections on ingredients and equipment are not bad either. I particularly like the tables detailing hop and yeast varieties. In the one-page, easy-to-read charts, the authors give us all the information we need to make intelligent choices in selecting the right hops or yeast for our batch. As for the remainder of these sections, although I found the authors' descriptions to be excellent introductions, I found myself thinking that even the greenest novice would find these laconic explanations wanting for lack of detail.

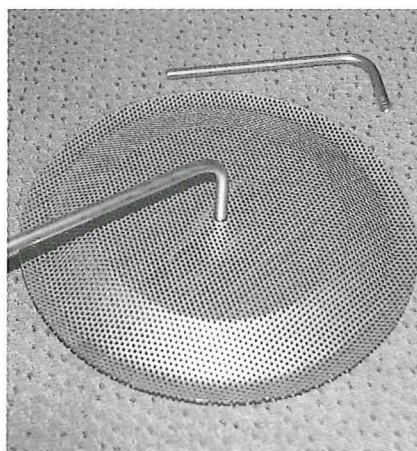
Chapter four, "Brewing Tips," is by far the weakest part of the book. Although the tips themselves are not bad, I did not feel they fit with the book's general theme. These eight pages should have been used to add more details to the chapter on equipment or to expand the appallingly short, one-page passage dedicated to recipe design.

The book concludes with recipes from a variety of beer styles from California Common to Weizen beer. Each style has a one-sentence description then two recipes. The recipes are all aimed at beginners, with the first recipe in each style slightly easier than the second. I found the design of this chapter to be well thought out. It enables novice brewers to select not only the style of beer to brew, but also the level of complexity at which he or she wants to brew. On the other hand, I question the wisdom of some of the styles the authors selected. Were I to

write an introductory brewing book, I would most likely exclude recipes for complicated styles, such as lagers and high-gravity ales, and instead stick to the simpler recipes that might be less frustrating to beginners.

If you are looking for a book to get you up and brewing fast, *Brewing Made Easy* is for you. On the other hand, if you are like me and want some of the whys in addition to the hows, or if you already have the basics down, I would look for a different book.

Brewing Made Easy by Joseph Fisher and Dennis Fisher is published by Storey Publishing. Publisher's suggested retail price is \$9.95. © 1997 Garshom L. Arkoff



ABT's False Bottom

It's just my luck that now, after I've built my own all-grain brewing system, more great new products are coming to market. One of the latest is a new false bottom from Advanced Brewing Technology. It is similar to other false bottoms on the market with one major difference. It's not just a flat piece of stainless steel with holes in it; it is dome shaped and the edges are bent to lie flat in the bottom of a Sanke keg. The slight 10-degree bevel along the edge gives the false bottom a full three-quarters inch of contact against the keg. What this gives you is a tighter fit around the edges, virtually eliminating any possibility of grain getting under it and clogging up your lines or pump.

The screen, made of a sturdy 18-gauge 304 stainless steel, is 11 1/2 inches in

diameter so it fits easily into the standard 12-inch opening. It has 3/32-inch holes drilled at a 5/32-inch stagger and comes with a 3/8-inch outside-diameter stainless-steel dip tube that is flared at the bottom end to eliminate any threat of dislodging. Nothing is worse than having the weight of the grain bed push down on your screen, dislodging it from your dip tube.

Eager to try out my new toy I attempted to install it in one of my kegs that was already fitted with a three-eighths-inch ball valve. Unfortunately my ball valve was mounted an inch too high. After a quick call to the manufacturer a new dip tube, custom bent to my specifications, was in the mail. Clarence Bares of Advanced Brewing Technology is very customer-oriented and seems to be dedicated to providing quality products to the homebrewer. When it arrived my new false bottom fit perfectly into my keg-turned-mash tun.

My inaugural brew was a hefty barley wine with more than 25 pounds of grain. I used a standard infusion mash, recirculating the mash from time to time with a pump. I followed this with a long, slow sparge and an extended boil. I was able to get nearly 75 percent efficiency.

This is an excellent product and worth every penny of the \$33.97 suggested retail price. At that price a homebrewer could afford to put an additional one in the bottom of the boil kettle to keep fresh hops out of the counterflow wort chiller and fermentation vessel. The minor obstacle I encountered with the measurement of the dip tube should not discourage anyone. Although the three-eighths-inch dip tube is adequate, I think I'll modify this one to fit into my one-half-inch ball valve and dip tube (just a suggestion, Clarence.) Be on the lookout for more new quality products from this company in the future.

Advanced Brewing Technology sells wholesale only. Contact your local homebrew shop for availability of their products or to find a retailer near you contact Advanced Brewing Technology, 888 East Belvidere Rd., Unit 215, Grayslake, IL 60030; (847) 548-9267, FAX (847) 548-0048.

Reviewed by Gary Gutowski, a BJCP Certified beer judge and homebrewer for five years.
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ALEMENDMENTS

Mark L. Snyder

Homebrewers Score In Michigan

Congratulations Michigan homebrewers! After months of work, homebrewers in Michigan—and around the country—scored a major victory.

On December 2, 1997, the Michigan's governor signed into law a bill that recognizes homebrewers' rights to homebrew and to give away their product. Spearheading the drive was Rex Halfpenny of the Michigan Beer Guide, who was instrumental in getting attention drawn to the homebrew bill.

The real secret of the success, however, was the effort put forth by Michigan homebrewers, who, through phone calls and letters, contacted their legislators and let them know that this homebrew bill is important.

As we have done in other battles, the AHA provided logistic support, including updates via faxes, e-mails and information packets to homebrew clubs.

The response was tremendous. Rex Halfpenny informed me early in the campaign that one of the legislators had asked him to tell the homebrewers to stop calling—they got the message.

Our own Brian Rezac, AHA Administrator, reported on-site from two homebrew events in Michigan.

"Michigan is a perfect example of what is needed to legalize homebrewing in every state," Rezac said. "A person or small group to spearhead the effort, support from legislators and a well-executed grassroots effort.

"The story of the spearheading efforts of Rex Halfpenny, Representative David Anthony and Senator Christopher Dingell, coupled with the amazing telephone campaign by many Michigan homebrewers, could be used as a 'How to Legalize Homebrewing in Your State' primer," Rezac adds.

At A Taste of the Great Lakes in Frankenthum and the Michigan Homebrewers Rally in Leonard, Rezac spoke about the legaliza-

tion campaign. Halfpenny also spoke to the enthusiastic homebrewers at both events.

"This is a great relief to thousands of Michigan homebrewers," Halfpenny said. "Michigan has finally joined the majority of states who have aligned themselves with the federal government to make homebrewing legal."

The next challenge will be coming in Pennsylvania, which has a homebrew bill pending in the senate, with a vote expected in January. Utah is working on getting a bill registered.

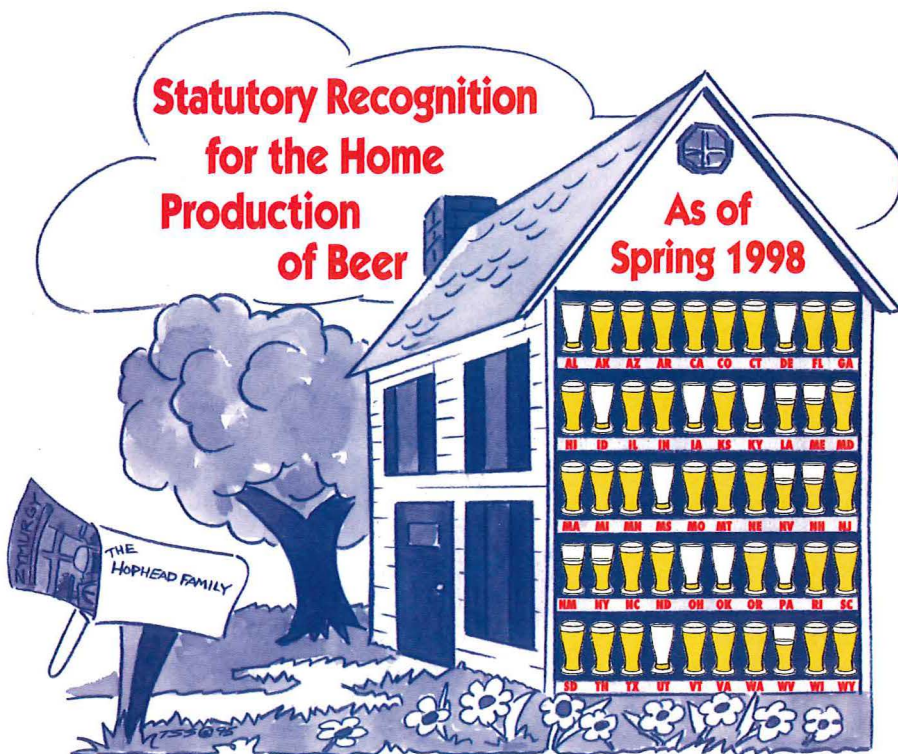
Vermont, which currently allows homebrewing, is working on a bill to allow homebrew events. Interest is also coming from homebrewers in Delaware, Mississippi and Oklahoma about getting bills registered and sponsored.

We need your help to find legislators (representatives or senators) willing to sponsor a homebrew bill.

Can we count on you? Please contact me, Mark Snyder, by phone (303) 447-0816 x137, fax (303) 447-2825, e-mail (marks@aob.org) or mail.

Mark Snyder is the American Homebrewers Association's Legalization Administrator.

For information on your state's laws please check out our web site at <http://www.beertown.org>, click on the "City Hall" icon and this will take you to our legalization page, which includes a listing of all the states' homebrewing laws and the federal statute. If you do not have access to our web site, please contact me and I will send you the information concerning homebrewing in your state. ☺



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WindRiver Brewing Co. Inc.
7212 Washington Ave. S.
Eden Prairie, MN 55344
(612) 942-0589; (800) 266-HOPS;
FAX (612) 942-0635;
windrvr@bitstream.net;
<http://www.windriverbrew.com>

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251 Lamp & Lantern Village
St. Louis, MO 63017
(314) 230-8277; FAX (314) 527-5413

St. Louis Wine & Beermaking
9979 Lin Ferry Dr.
St. Louis, MO 63123
(314) 843-9463

Winemaker's Market
4386 N. Essex Ave.
Springfield, MO 65803
(417) 833-4145; FAX (417) 833-8949

Worm's Way Missouri
2063 Concourse
St. Louis, MO 63146
(314) 994-3900; (800) 285-9676;
<http://www.wormsway.com>

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Kirk's Do-It-Yourself Brew
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Lincoln, NE 68521
(402) 476-7414

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Mr. Radz Homebrew Supply Shop
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(702) 736-8504; Outside NV; (800) 465-4723; FAX (702) 736-7942;
mrradzhb@aol.com

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Manchester, NH 03102
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<http://www.de-inc.com/~hdreams>

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(609) 424-3636;
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Millville, NJ 08332
(609) 825-0040

Hop & Vine
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Morristown, NJ 07960
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(800) 414-BREW;
<http://www.hopandvine.com>

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Forked River, NJ 08731
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aleman@hometowncomm.com;
<http://207.86.100.195/keg&barrel/>

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(Route 631)
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katydid@sprintmail.com

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Princeton, NJ 08542
(609) 252-1800; FAX (609) 252-1800;
schd@pluto.njcc.com

Red Bank Brewing Supply
111 Oakland St.
Red Bank, NJ 07701
(908) 842-7507

U-Brew Corp.
319 1/2 Millburn Ave.
Millburn, NJ 07041
(973) 376-0973; (973) 376-0493;
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<http://www.kzed.com/brew>

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<http://WWW.AHWD.COM>

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Albany, NY 12210
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homebrew@albany.net;
<http://www.albany.net/~homebrew>

The Brew Shop @ Cornell's
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(800) 961-BREW; FAX (914) 961-8443; brewshop@cornells.com;
<http://www.cornells.com>

The Brews Brothers at KEDCO—Beer & Wine Supply Store
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(516) 454-7800; (800) 654-9988
(outside N.Y. only);
FAX (516) 454-4876

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Smithtown, NY 11787
(516) 979-3438; (800) 499-BREW

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(914) 528-6219

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Syracuse, NY 13204
(315) 426-1044

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439 Castleton Ave.
Staten Island, NY 10301
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FAX (718) 727-9313

The Homebrew Experience
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(888) BREW-GUYS (toll free);
brewguys@brewguys.com;
<http://www.brewguys.com>

Homebrew Shop at Karp's
#2 Larkfield Rd.,
Inside Karp's Hardware
East Northport, NY 11731
(516) 261-1235; FAX (516) 261-1573;
alannnt@aol.com;
<http://members.aol.com/kimlgt/beer.html>

Mighty Niagara Brewer
744 Elmwood Ave.
Buffalo, NY 14222
(716) 883-1040; janus@pcom.com;
<http://www.woohoo.com>

New York Homebrew
221 Old Country Rd.
Carle Place, NY 11514
(800) YOO-BREW;
FAX (516) 294-1872

Niagara Tradition Homebrew
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Tonawanda, NY 14217
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FAX (716) 877-6274

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Red Hook, NY 12571
(914) 758-0661

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Morrisville, NC 27560
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Winston-Salem, NC 27101
(910) 722-2774; (910) 725-1481;
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Grand Forks, ND 58201
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The Grape and Granary
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(330) 633-7223; (800) 695-9870;
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<http://www.primenet.com/~homade>

JC Homebrewing Co.
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East Springfield, OH 43925
(614) 543-4200; (800) 899-5180;
jcbrew@clover.net;
<http://www.jchomebrew.com>

Portage Hills Vineyards
1420 Martin Rd.
Suffield, OH 44260
(800) 418-6493;
portage@ix.netcom.com;
<http://www.portagehills.com/portage>

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299 Jones St., PO Box 17
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(330) 567-2149 (free catalog);
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123 Monroe St.
Eugene, OR 97402
(541) 485-6238; FAX (541) 485-2220;
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(814) 833-7747; (814) 838-4090;
bierhaus@erie.net

Country Wines and Beer
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(412) 366-0151;
info@countrywines.com;
<http://www.countrywines.com>

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Gettysburg, PA 17325
(301) 663-4491

The Frothy Shoppe
4807 SR 103 North
Lewiston, PA 17044
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Philadelphia, PA 19103
(215) 569-9469; FAX (215) 569-4633;
homsweet@voicenet.com

Keystone Homebrew Supply
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Montgomeryville, PA 18936
(215) 855-0100; FAX (215) 855-4567;
keystonehb@juno.com

Mr Steve's Homebrew Supplies-East
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(717) 391-9655; brewmutt@aol.com;
http://home1.gte.net/mrstevens/

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4342 N. George St.
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358-3752; Brewtoday@aol.com

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Abilene, TX 79602
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asbrew.com

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Abilene, TX 79602
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(2739); classicferm@fia.net;
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**DeFalco's Home Wine
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(800) 216-2739

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(214) 234-4411; (214) 699-1439;
(800) 966-4144;
http://www.homebrewhq.com

Homebrew Headquarters-West
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Arlington, TX 76011
(817) 792-3940; (800) 966-4144;
http://www.homebrewhq.com

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Richardson, TX 75080
(972) 234-5922; (800) 270-5922;
FAX (972) 234-5922;
jmorgan@primaview.com;
http://www.primaview.com/
homebrew/

The Home Brewery
PO Box 308, 3800 Colleyville Blvd.
Colleyville, TX 76034
(817) 281-7252; (800) 817-7369
(orders); FAX (817) 581-4335;
http://www.flash.net/~greg10

Lubbock Homebrew Supply
1718 Buddy Holly Ave.
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(800) 742-BREW; (806) 763-7480;
lubbock.homebrew@door.net;
http://door.net/homebrew/

St. Patrick's at Waterloo Brewing
401A Guadalupe St.
Austin, TX 78701
(512) 499-8544; FAX (512) 499-8621;
stspats@vixer.bga.com;
http://www.stspats.com

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Texas Brews Supply**
12922 Staton Dr.
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The Winemaker Shop
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brewsome@Onramp.NET;
http://winemakershop.com;

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The Beer Nut Inc.
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sales@vintagecellar.com;
http://www.vintagecellar.com

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Alchemy Brew & Wine
104 S. 4th Ave.
Pasco, WA 99301
(509) 545-4605; wesa1@gte.net

The Beer Essentials
15219 Pacific Ave. S.
Tacoma, WA 98444
(206) 536-8840; (800) 685-2739;
robn2beer@aol.com

Brewers Warehouse
4520 Union Bay Place N.E.
Seattle, WA 98105
(206) 527-5047;
http://www.brewerswarehouse.com

The Cellar Homebrew
14411 Greenwood Ave. N.
Seattle, WA 98133
(206) 365-7660; (800) 342-1871;
staff@cellar-homebrew.com;
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9109 Evergreen Way
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(425) 355-8865; FAX (425) 290-8336;
(800) 850-2739 order line;
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Kim's Place
Smokey Point Plaza
3405 172nd St. N.E.
Arlington, WA 98223
(360) 658-9577; (888) 658-9577;
kimsplace@tgi.net

Larry's Brewing Supply
7405 S. 212th St. #103
Kent, WA 98032
(206) 872-6846; (800) 441-BREW;
jltrent@aa.net;
http://www.brewingnw.com/larrys;

Liberty Malt Supply Co.
1419 First Ave.
Seattle, WA 98101
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(6258); FAX (206) 322-5185;
liberty@mdv-beer.com

Northwest Brewers Supply
316 Commercial Ave.
Anacortes, WA 98221
(800) 460-7095; FAX (360) 293-4904;
nwbs@fidalgo.net

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(920) 339-8484

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FAX (414) 761-7360;
briannbs@execpc.com;
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index.html;

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(414) 722-6281

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(905) 264-1494; FAX (905) 264-1495;
http://www3.sympatico.ca/
marcon.filters/

CALENDAR



February

- 21** 4th Annual Commander Saaz's Interplanetary Homebrew Blastoff, **AHA SCP**, Cape Canaveral, Fla. Entries due 2/16/98 with a \$5.50/entry fee. Contact Lynn Seelos at 407-633-6605 (h) or 407-861-1198 (w), e-mail: LRSeelos@aol.com.

March

- 7** 5th Annual America's Finest City Homebrew Competition, **AHA SCP**, San Diego, Calif. Entries due 3/3/98 with a \$6 fee for 1st, \$4 for add'l entries. Contact Greg Lorton at (760) 943-8280 (h) or (619) 592-7707 (w), e-mail: qasd@aol.com.
- 7** Knickerbocker Battle of the Brews, **AHA SCP**, Latham, N.Y. Entries due 2/27/98 with a \$6 fee for 1 entry, \$4/entry for 2+. Contact Keith Looney at (518) 458-9354 (h) or (518) 482-2135 (w), e-mail: looney@moonbrew.com.
- 13-14** 3rd Annual Kona Brewers Festival Homebrew Competition, **AHA SCP**, Kailua-Kona, Hawaii. Sponsored by Recycle Hawaii and Kona Brewing Co. Entries due 3/4/98 with a \$5/entry fee. Contact Rod Romanek at (808) 325-7449, e-mail: rocketsuds@prodigy.net.
- 14** Shamrock Open, **AHA SCP**, Raleigh, N.C. Sponsored by CAR-BOY homebrew club. Entries due 3/10/98. Qualifies for N.C. and South East Brewer of the year. Contact Bill MacKenzie at (919) 846-8329, e-mail: dedpetvet@aol.com.
- 14** Heart of Dixie Brew-Off, **AHA SCP**, Birmingham, Ala. Entries due 3/7/98 with a \$6/entry fee. Contact John Rhymes at (205) 941-3288 (h) or (205) 257-2594 (w), e-mail: jwrhymes@mindspring.com.
- 20-21** The Twelfth Annual Bluebonnet Brew-off, Dallas-Ft. Worth, Texas. Entries due 3/6/98. Contact John Kessel at (817) 478-0693 or (817)-229-3500, e-mail: prkessel@earthlink.net.

- 21** Palm Beach Draughtsmen 3rd Annual Hurricane Blowoff Homebrew Competition, West Palm Beach, Fla. Entries due 3/14/98 with a \$6/entry fee. Web: <http://www.maco.net/homebrew/PBD/>.

- 21** Stout Bout Club-Only Competition, **AHA SCP**, Smithtown, NY. Sponsored by Brewers East End Revival (BEER). Entries due 3/16/98 with a \$5/entry fee. Contact Brian Rezac at (303) 447-0816 ext.121, e-mail: brian@aob.org.

- 21-22** The 1998 St. Patrick's Cascadia Cup Homebrew Competition, **AHA SCP**, Woodenville, Wash. Sponsored by Redhook Ale Brewery. Entries due 3/14/98. Redhook will brew a 50 Bbl. batch of the best of show beer. Contact Alan Hord at (425)-844-8473, e-mail: alan@hordsoffun.com.

- 22** 7th Annual New York City Spring Regional Homebrew Competition, **AHA SCP**, Staten Island, N.Y. Entries due 3/19/98 with a \$5 fee/entry. Contact Ken Johnsen at (718) 982-7202 (h) or (718) 667-4459 (w), e-mail: KBJohns@PeakAccess.net.

- 28** Steel City Homebrew Competition, Pittsburgh Pa. Sponsored by TRASH. Entries due from 3/2/98 to 3/14/98. Contact Rich Schutte at 412-429-4922, e-mail: competition@ralph.pair.com.

- 28** Third Annual South Shore Brew-off, **AHA SCP**, Cranston, R.I. Entries due 3/21/98. Contact Glenn Markel at 508-226-3249, e-mail: GRMARKEL@AOL.COM.

- 30** 2nd Annual Homebrew Contest and Homebrewers Night Out, **AHA SCP**, East Northport, N.Y. Entries due 3/20/98 with a \$2/entry fee. Contact Alan Talman at 516-261-1235, e-mail: alannnnT@aol.com.

April

- 2-4** 8th Annual MashFest, **AHA SCP**, Fort Collins, Colo. Entries due 3/21/98 with a \$4/entry fee. MCAB QE. Contact Scott Mills at (970) 669-6088, e-mail: scott_mills@hp.com.

- 4** Maltose Falcons Mayfaire 1998, Woodland Hills, Calif. Entries due 3/12/98 with \$6 entry fee. Contact Kevin Baranowski at (818) 362-5107 (h) or email: beervp@westval.com

- 11** Bluff City Brewers 10th Annual Homebrew Extravaganza, **AHA SCP**, Memphis, Tenn. Entries due 4/4/98 with a \$5/entry fee. Contact Patrick Rohrbacher at (901) 683-6080 (h) or (901) 458-3090 (w), e-mail: FTMK71B@Prodigy.com.

- 11** Fireworks 1st Annual Homebrew Competition, **AHA SCP**, White Plains, N.Y. Sponsored by Fireworks Brewing Co. Entries due 4/10/98, registration due 4/4/98 with a \$5/entry fee. Contact J. Michael Gilmore at (914) 448-2337.

- 17-18** 1998 Crescent City Competition, **AHA SCP**, New Orleans, La. Sponsored by Crescent City Homebrewers. Entries due 4/4/98 with a \$6/entry fee. Contact Ernie Spreen at (504) 455-8419 (h) or (504) 888-5410 (w), e-mail: seiler@acadiacom.net.

- 25** Land of the Muddy Waters Homebrew Competition, **AHA SCP**, Rock Island, IL. Entries due 4/24/98 with a \$5/entry fee. No fee for 4+ entries. Contact Tim Dugan at (319) 388-6476 (h), e-mail: tdugan@netins.net.

- 25** 2nd Annual B.E.E.R. Brew-Off, **AHA SCP**, Nesconset, N.Y. Entries due 4/17/98 with a \$5/entry fee (add'l entries over 11 are free). Contact Les Stoddard at (516) 467-3951 (h) or (516) 234-3800 (w), e-mail: mikebeer@aol.com.

- 25** U.S. Open Homebrew Competition, **AHA SCP**, Charlotte, N.C. Entries due 4/20/98 with a \$6/entry fee, \$4 for each add'l. Contact John Mitchell at (704) 864-3450 (h) or (704) 868-0877 (w), e-mail: jlmitch@charlotte.inf.net.

May

- 2** Kearney Area Brewfest, **AHA SCP**, Kearney, Neb. Entries due 4/25/98 with a \$5/two-entry fee. Contact Kevin Fraber at (308) 234-3531 (h) or (308) 237-5163 (w), email: kevin_frabr@kfn.org.

- 2** Green Mountain Homebrew Competition, **AHA SCP**, Burlington, Vt. Entries due 4/17/98 with a \$5/entry fee. Contact Dave Gannon at (802) 879-1304 (h) or (802) 656-2182 (w), e-mail: dgannon@zoo.uvm.edu.

- 2** Northern Brewfest (formerly St. Paul Brewing Competition), **AHA SCP**, St. Paul, Minn. Sponsored by Northern Brewer and Town Hall Brewery. Entries due 4/22/98 with a \$7.50/entry fee. Contact Peter Ausenhus at (612) 291-8849 (w), e-mail: mail@nbrewer.com.

- 9** Oregon Homebrew Competition & Festival, **AHA SCP**, Corvallis, Ore. Entries due 5/8/98 with a \$5/entry fee. Contact Bill Baxter at (541) 753-5228 (h) or (541) 715-7516 (w), e-mail: bill_baxter@om.cu.hp.com.

- 9-10** Elizabeth Homebrew Competition, **AHA SCP**, San Bernadino, Calif. Sponsored by Renaissance Pleasure Faires, Inc. Entries due 4/27/98 with a \$10 fee. Contact Laurie Poel at (909) 880-6211 ext. 202.

15-17 The 9th Annual Sunshine Challenge, **AHA SCP**, Orlando, Fla. Entries due 5/1/98 with a \$6/entry fee. Contact Steve Vallancourt at (407) 293-5094 (h) or (407) 290-5437 (w), e-mail: stevebrau@aol.com.

16 2nd Annual Celtic Brews Competition, Arlington, Texas. Sponsored by Knights of the Brown Bottle Homebrew Club. Entries due 5/8/98 with a \$5/entry fee. Open to AHA categories in Celtic styles. Contact JB Flowers at (817) 229-3500, e-mail: bpflower@flash.net.

16 Dominion Cup, **AHA SCP**, Richmond, Va. Entries due 5/8/98. Fees: \$6 1st, \$5 2nd, \$4 each add'l. Contact Steve Jarrett at (804) 745-8091 (h), e-mail: steve.jarrett@alliedsignal.com.

20-29 San Bernardino County Fair/Bell Mountain Brewing Competition, **AHA SCP**, Victorville, Calif. Entry forms due 5/2/98, bottles due 5/19/98 with an \$8/entry fee. Contact Annette Keoppel at 760-247-4447(h) or 760-240-BEER (w).

23 Classic Pilsener Club-Only Competition, **AHA SCP**, Clayton, Mo. Sponsored by St. Louis Brews. Entries due 5/18/98 with a \$5/entry fee. Contact Brian Rezac at (303) 447-0816 ext.121, e-mail: brian@aob.org.

June

7 Nation's Capital "Spirit of Free Beer" Homebrew Competition, **AHA SCP**, Washington, D.C. Entries due 6/1/98. \$6 1st entry, \$5 2nd, \$4 each add'l. entry. Contact Mark Stevens at (540) 822-4537 (h) or (410) 338-4963 (w), e-mail: stevens@burp.org.

13 4th Annual Boneyard Brew-Off, **AHA SCP**, Champaign, IL. Sponsored by Boneyard Union of Zymurgical Zealots. Entries due 6/8/98 with a \$5/entry fee, \$4/entry for 4+. Contact Joel Plutchak at (217) 359-4931, e-mail: plutchak@uiuc.edu.

14 4th Annual Mill Creek Classic, **AHA SCP**, Salem, Ore. Sponsored by Capitol Brewers. Entries due 6/6/98. Contact Ron Thomas at (503) 873-5181

14 3rd Annual Big Batch Brew Bash, **AHA SCP**, Houston, Texas. Entries due 5/30/98. Contact Brian Ellis at (713) 849-5309 (h) or (281) 444-4575 (w), e-mail: centuryltd@aol.com.

19-20 4th Annual Eight Seconds of Froth, **AHA SCP**, Cheyenne, Wyo. Entries due 6/11/98 with a \$4/entry fee, or 3 for \$10. Contact Paul Dey at (307) 635-9481 (h) or (307) 777-4559 (w), e-mail: allday@aol.com.

25-26 Buzz-Off, **AHA SCP**, Downingtown, Pa. Entries due 6/18/98 with a \$5/entry fee. Contact Robert Mattie at (610) 429-3848 (h) or (610) 962-7521 (w), e-mail: rpmattie@voicenet.com.

July

18 Ohio State Fair Homebrewed Beer Contest, **AHA SCP**, Columbus, Ohio. Entries due 6/20/98 with a \$5 fee. Contact Brett Chance at (614) 644-4126 (w).

28 Washington County Fair Homebrew Competition, **AHA SCP**, Hillsboro, Ore. Entries due 7/26/98. Contact Frank Johnson at 503-648-7398 (h), e-mail: johnsonf@iscn.com.



AHA SCP = American Homebrewers Association Sanctioned Competition Program

The Calendar of Events is updated weekly and is available from the Association of Brewers: info@aob.org or <http://beertown.org> on the web.

To list events, send information to **Zymurgy** Calendar of Events. To be listed in Summer Issue (Vol. 21, No. 1), information must be received by March 1, 1998. Competition organizers wishing to apply for AHA Sanctioning must do so at least two months prior to the event. Contact Amahl Turczyn at amahl@aob.org; (303) 447-0816 ext. 116; FAX (303) 447-2825; PO Box 1679, Boulder, CO 80306-1679.

AMERICAN HOMEBREWERS ASSOCIATION • KUDOS • SANCTIONED COMPETITION PROGRAM

• August 1997 •

BLUE RIBBON CHEF'S CHALLENGE
East Lansing, Mich., 44 entries—Michael Thompson of Flint, Mich. won best of show.

BEER & SWEAT
Cincinnati, Ohio, 75 entries—David Zalew of Proctorville, Ohio won best of show.

CORNISH FAIR PRESERVATION COMMITTEE
Cornish, Maine, 20 entries—Rob Rodriguez from Cornish, Maine won best of show.

KENTUCKY STATE FAIR
Louisville, Ky., 114 entries—Joseph Magruder of Louisville, Ky. won best of show.

EVERGREEN STATE FAIR BEER BREWING COMPETITION
Monroe, Wash., 95 entries—Chuck Holshouser, of Tacoma, Wash. won best of show.

MONTGOMERY COUNTY FAIR 2ND ANNUAL HOMEBREW COMPETITION
Gaithersburg, Md., 150 entries—Stephen Laughlin of Derwood, Md. won best of show.

THE ACTION ALLIANCE'S BEWFEST AND COMPETITION
Lawrence, Kan., 30 entries—Joe Thoma of Blue Springs, Mo. won best of show.

3RD ANNUAL HIGH DESERT BREWERS & EASTERN IDAHO STATE FAIR HOMEBREW COMPETITION
Blackfoot, Idaho, 56 entries—Scott Priore of Fremont, Calif. won best of show.

• September 1997 •

SANTA CRUZ COUNTY FAIR HOMEBREW COMPETITION
Watsonville, Calif., 54 entries—Cathy Carlson of Las Lomas, Calif. won best of show.

WINFIELD BEER IN A BOX HOMEBREW COMPETITION

Winfield, Ill., 67 entries—Duffy Toler of Sugar Grove, Ill. won best of show.

SECOND DAYTON BEERFEST

Dayton, Ohio, 121 entries—Ben Pollard of Amarillo, Texas won best of show.

ELIZABETHAN

HOMEBREWING COMPETITION
Novato, Calif., 82 entries—Nancy Ostrom of Sacramento, Calif. won best of show.

TUNBRIDGE WORLD'S FAIR HOMEBREW COMPETITION

Tunbridge, Vt., 87 entries—Dan Marshall of Burlington, Vt. won best of show.

MICKY FINN'S BREWER'S DREAM HOMEBREW COMPETITION
Libertyville, Ill., 54 entries—Joe Formanek, of Lisle, Ill. won best of show.

HARVEST MOON

BEER FESTIVAL 1997
Regina, Saskatchewan, Canada, 78 entries—Gary Falkenstein of Regina, Sk. won best of show.

• October 1997 •

1997 THUNDER MOUNTAIN BREW-OFF

Sierra Vista, Ariz., 201 entries—John and Keli Hinson, of Athens, Ga. won best of show.

SYDNEY NORTH BREWERS SPRING BEER COMPETITION

Sydney, NSW, Australia, 99 entries—Regan Pollondi of Newtown, NSW won best of show.

PACIFIC BREWERS CUP

HOMEBREW COMPETITION
Redondo Beach, Calif., 120 entries—Mike Sunny and Don Put of Long Beach, Calif. won best of show.

OKTOBERFEST

Toledo, Ohio, 99 entries—Larry Pickett of Toledo, Ohio won best of show.

4TH ANNUAL SIN CITY SUDZERS HOMEBREW COMPETITION

Sheboygan, Wis., 48 entries—Jay Reeves of Huntsville, Al. won best of show.

MINNESOTA BREWFEST 1997

Minnetonka, Minn., 319 entries—Chris Stomberg of Minneapolis, Minn. won best of show.

ARIZONA STATE FAIR

Phoenix, Ariz., 50 entries—Doug Chaffee of Mesa, Ariz. won best of show.

OKTOBERSBEST, ZINZINNATI HOMEBREWERS COMPETITION

Cincinnati, Ohio, 76 entries—Ron Thomas of Silverton, Ore. won best of show.

ARIZONA SOCIETY OF HOMEBREWERS OKTOBERFEST

Tempe, Ariz., 128 entries—Mike Walker of Mesa, Ariz. won best of show.

THE TASTE OF THE GREAT LAKES

Frankenmuth, Mich., 127 entries—Jeffrey R. Carlson of Grand Rapids, Mich. won best of show.

• November 1997 •

QUEEN OF BEER HOMEBREW COMPETITION

Placerville, Calif., 76 entries—Nancy Sampson of Orlando, Fla. won best of show.

2ND ANNUAL MUSIC CITY BREW OFF

Nashville, Tenn., 130 entries—George Fix of Arlington, Texas won best of show.

BREWS BROTHERS

NOVEMBERFEST

Seattle, Wash., 161 entries—George Fix of Arlington, Texas won best of show.

ORCHID ISLE ALERS OKTOBERFEST HOMEBREW COMPETITION

Hilo, Hawaii, 30 entries—Chad Mid-dlesworth and Diki Short of Hilo, Hawaii won best of show.

HARVEST FESTIVAL HOMEBREW COMPETITION

Stamford, Conn., 27 entries—LaVon Bair of Easton, Conn. won best of show.

BEST OF PHILLY

HOMEBREW COMPETITION
Philadelphia, Pa., 185 entries—Chuck Hanning of Malvin, Pa. won best of show.

HUMPY'S BIG FISH HOMEBREW COMPETITION

Anchorage, Alaska, 46 entries—Michael Kiker of Anchorage, Alaska won best of show.

GREAT BREWS OF AMERICA HOMEBREW COMPETITION

Lake Harmony, Pa., 88 entries—Bob Talkiewicz of Binghamton, N.Y. won best of show.

• December 1997 •

NEW ENGLAND FALL REGIONAL HOMEMADE BEER COMPETITION

South Deerfield, Mass., 152 entries—Thomas J. O'Connor III M.D. of Rockport, Maine won best of show.

LE PREMIER SPECTACLE DE HOUBLON DU MONDE

Princeton, N.J., 340 entries—Mike Jarrett of New Hope, Pa. won best of show.

ALEXANDER'S

Sun Country

for a natural homebrew

Premium Malt

*Pale, Wheat, Amber, Dark
Munich, Nut Brown,
& Dutch Lager*

1.4 lb. cans

4 lb. cans

5 gal. pails



18678 N. Hwy. 99 Acampo, CA 95220
(209) 334-9112; (209) 334-1311 fax

American Homebrewers Association®

Stout Bout

The bell rings. The fight begins. Which club's stout will go the distance in the 1998 Stout Bout Club-Only Competition? Entries due March 16, 1998. Three bottles per entry, one entry per club. Please use the AHA Sanctioned Competition entry forms and include the \$5 entry fee. **All clubs in the AHA Registered Homebrew Clubs Program are eligible and encouraged to participate.**

Contact Brian Rezac at (303) 447-0816 ext. 121; FAX (303) 447-2825 or brian@aob.org with any questions.

Ship To: Brewer's Den
c/o Beer
75 Smithtown Blvd.
Smithtown, NY 11787



**CLUB-ONLY COMPETITION
DEADLINE MARCH 16, 1998**

1998 AHA National Homebrewers Conference



The 1998 American Homebrewers Association® National Homebrewers Conference rolls into Portland, Oregon for the Northwest Homebrew Express, July 22–24 (right before the Oregon Brewers Festival), at the DoubleTree Lloyd Center. Conference events include the second round of judging and best of show judging for the AHA National Homebrew Competition, the 1998 Conference Expo, homebrew club events, brewing seminars covering a variety of topics for all experience levels, the annual pub crawls, brewery tours and much more.



Look for Conference details in the Summer issue of *Zymurgy*® or contact the AHA at PO Box 1679, Boulder, CO 80306-1679, U.S.A.; (303) 447-0816; FAX (303) 447-2825; aha@aob.org or <http://beertown.org> for more information.

July 22–24, 1998 • Portland, Oregon

You asked, We listened! Due to overwhelming demand, the editors have decided to reprint the 1998 National Homebrew Competition Rules and Regulations in this issue for your convenience.

THE LARGEST HOMEBREW COMPETITION IN THE WORLD!

It's time for the American Homebrewers Association® 1998 National Homebrew Competition!

In 1997, more than 400 judges evaluated 3,980 homebrewed beverages. We expect more than 4,000 entries for the 1998 Competition. The Competition is an enormous undertaking, and we thank all of the sponsors and volunteers whose determination and enthusiasm for homebrewing has made the Competition a success over the years. A total of 27,186 homebrews have been judged in the 19 years of competition.

NEW FOR THE 1998 COMPETITION

- * Simplified first-round entry form
- * Improved style descriptions
- * Category sponsored prizes for first-place winners in the second round
- * Recipe form required for second-round brewers
- * Lower entry fee

PART I – HOW TO ENTER THIS COMPETITION

1. What kind of bottles are required?

Every bottle must be 10 to 14 ounces in volume, brown or green glass, and be free of raised-glass or inked brand-name lettering and paper labels. Raised “No Deposit” or bottle manufacturing codes (e.g. p m 00 H 4328) are acceptable. Obliterate any lettering or graphics on the cap with a permanent black marker. Bottles with Grolsch-type swing tops are not allowed. Corked bottles meeting the above restrictions are acceptable; however, you must crimp a crown cap over the cork. Bottles not meeting these requirements will be disqualified.

2. How many bottles do I need?

Send one (1) bottle for each BEER and MEAD entry competing in the first round. Reserve a total of four (4) bottles of each entry: one (1) for the first round of the Competition and three (3) for competing in the second round of the Competition should your beer or mead advance. For CIDER, send all at once, three (3) bottles for each entry by the first-round deadline.

3. What are the entry fees?

AHA members pay \$8 per entry. Non-members pay \$12 per entry. Make checks payable (in U.S. funds) to American Homebrewers Association (or A.H.A.) and include your membership number (if applicable) on the check. Canadian entrants may send Canadian checks. Canadian checks should be payable to the American Homebrewers Association (or A.H.A.) and have Canadian funds equivalent to U.S. funds at the current exchange rates. (See entry form for details.)

4. When are the entry deadlines?

First-round entries must be received at the appropriate site between Monday, May 4, and 5 p.m. on Friday, May 15, 1998. Second-round entries must be received at the appropriate site between Monday, July 13, and 5 p.m. on Friday, July 17, 1998. Notification will be mailed by June 17 with additional instructions if your entry advances to the second round.

5. How do I enter?

(a) For each entry, fill out an entry form (last part of this brochure) in its entirety. For complete instructions on filling out the entry form, see Part II. Judges do not see your entry form. For more than one entry, please make copies of the entry form.

(b) Fold your check or money order with one of your entry forms. On your check write the number of entries the check or money order pays for and the names of the entrants if they are not all the same.

(c) Fold and rubber band each entry form to each bottle. Your entry will be disqualified if you use glue or tape to secure the form to the bottle.

(d) Pack your bottles carefully. (See Part III, Section I.)

(e) Ship your box to the appropriate address given on the Site Locator Map in PART VI of these guidelines. Sites cannot acknowledge receipt of entries – arrange for a return receipt with your shipping company if you wish to confirm delivery of your package. Packages with postage due or C.O.D. charges will be returned to sender.

6. Which category do I enter?

It is entirely your decision. You should try to enter your brew in the category and subcategory where you feel it will perform best. Judges do not see your entry form. Judges or organizers will not classify or reclassify your beer. Your entry will not be disqualified if it falls outside of a category's parameters – the descriptions are guidelines to help you enter your beer. Judges use the guidelines to guide them while judging your beer.

7. Are there entry limitations?

(a) You may not submit more than one entry per subcategory.

(b) Your homebrew must not have been brewed at any place that brews beverages for any commercial purpose, whether for commercial research, production or any other purpose, including brew-on-premise establishments.

(c) You must give the names of all brewers who helped in the brewing.

PART II – INSTRUCTIONS FOR COMPLETING THE ENTRY/RECIPE FORM

Entry Form Section A: Brewers Information

Please print clearly or type. In Item 1 fill in the name of the brewer who is responsible for receiving mailings and results. In Item 2 fill in the full names of all other brewers who participated in brewing the entry. In Items 3 through 6 write the address where mailings and results should be sent. Fill in Items 7 through 11 as applicable.

Entry Form Section B: Entry Information

In Item 12 write out the full names of the category and subcategory you are entering. In Items 13 and 14 write the category number and subcategory letter you are entering. Directors, judges or registrars will not classify or reclassify your entry under any circumstances. For item 16 circle the appropriate item for your mead or cider entry.

Important information for Item 17

If you enter 3c, 20b, 20c, 21, 22, 23, 25, 26, 27, 28c, 28d, please follow the instructions below very carefully to give information for Item 17. LEAVE ITEM 17 BLANK IF YOU HAVE NOT ENTERED THE ABOVE CATEGORIES. The information in Item 17 is necessary for accurate judging of entries in these categories. In all cases do not give brand names, geographic names or any proper names of special ingredients indicating the origin or identity of the brewer. For example, if you used Premier Malt Extract, Briess pale malt, Washington apples or Idaho clover honey, only enter malt extract, pale malt, apples or clover honey, respectively. Judges use this information for evaluating entries in these categories.

Entries in 3c:

Give the type of fruit you used.

Entries in 20b and 20c:

If you enter 20b, give the emulated classic style and the type of smoking wood or liquid smoke used (for example: birch-smoked porter, apple-smoked Scottish ale, etc.).

If you enter 20c, give the special ingredients used and the type of smoking wood or liquid smoke used.

Entries in 21: If you enter 21a, list the fruit(s) or vegetable(s) used.

If you enter 21b, list the fruit(s) you used and give the emulated classic style (for example: raspberry stout, blueberry Pilsener, plum India pale ale). If you used any other special ingredient in addition to the fruit, enter your beer in category 23: Specialty and Experimental Beer.

Entries in 22:

If you are entering 22a, list the herb(s) you used. If you are entering 22b, list the herb(s) you used and give the classic style you have emulated. For example: nutmeg stout, chili Pilsener, coriander India pale ale. If you have used any other special ingredients in addition to the herbs, enter your beer in category 23: Specialty and Experimental Beer.

Entries in 23:

If you enter 23a, write the special technique or ingredients used. If you used both fruit and herbs, list them. If you enter 23b, give the emulated classic style (for example: honey Pilsener, cinnamon maple stout or fennel seed porter).

Entries in 25:

Give the type of honey used.

Entries in 26:

Give the fruit(s) or vegetables and the type of honey used.

Entries in 27:

Give the herb(s) or spice(s) and the type of honey used.

Entries in 28c and 28d:

In 28c indicate whether your entry is still or sparkling New England-style cider. In 28d give the special ingredients and/or special yeast used.

PART III – THE FINE PRINT

A. General

This Competition is open to all homebrewers, AHA members and non-members. No employee of the Association of Brewers may enter. Persons under contract and/or persons volunteering their services to the Association of Brewers are eligible. First-round registrars, site directors and judge directors who enter must enter at a site other than the one they host. Judges may not judge a category they have entered. Applicable entry fees and limitations shall apply.

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 he/she wishes his/her entry to be judged. Under no circumstances will registrars, judges or directors categorize entries.

Beer, mead and cider will be judged only in terms of the categories and subcategories listed in the Category Descriptions. Entries must be referred to by category NUMBER and subcategory LETTER. Dry, medium, sweet or very sweet must be designated for all mead and cider entries.

If a category does not have at least 20 entries in 1998, it will not be included in the 1999 Competition.

B. First Round Awards and Prizes

(1) First, second and third place will be awarded in each category at each first round site. Entries must score 30 or better to place in the first round and advance to the second round, although scoring a 30 does not guarantee entry into the second round—only three entrants per category per site will advance. These winners will also contribute points for their respective clubs. Six points will be awarded for a first place, three for a second place and one point for a third place. These club points will be included in determining the Homebrew Club of the Year award. See Part III Section C.

(2) Certificates will be awarded to first round brewers whose achievements are outstanding based on judges' scoring and the following standards: Gold-Award winners have scores of 38-50, Silver-Award winners have scores of 30 to 37; Bronze-Award winners have scores of 21 to 29.

(3) At the discretion of Competition organizers and/or judges, awards may not be given if the quality of an entry is not deemed deserving of an award.

C. Second Round Awards and Prizes

(1) Prizes will be awarded after second-round judging. First-, second- and third-place winners in each category will receive a gold, silver or bronze medal, respectively, and a commemorative stein. Steins will be mailed to second round medalists early in October, 1998. Gold medal winners of the second round of the 1998 National Homebrew Competition will also receive category sponsor-donated prizes for their outstanding brewing efforts.

(2) First-place winners of each beer category will compete in a best-of-show judging. The winner will be awarded Homebrewer of the Year sponsored by Munton's, p.l.c. of England.

(3) First-place winners of each mead category will compete in a best-of-show judging. The winner will be awarded Meadmaker of the Year sponsored by Madhava's Mountain Gold Honey of Lyons, Colo.

(4) The first-place winner of the cider category will be awarded Cidermaker of the Year.

(5) The Ninkasi Award will be given to the brewer(s) who accumulate(s) the most points in the 24 beer categories in this Competition. Six points are awarded for a first place, three points for a second place and one point for a third place. Individual members of a group of brewers do not earn points on an individual basis. For example, if

Brewer A and Brewer B enter individually, they earn points individually, but if they enter as a team, they earn points as a team. Entry forms must list each member of the team of brewers to count toward the point total. There will be only one Ninkasi winner. In case of a tie, the AHA will use a tie-breaking system. The Ninkasi award is sponsored by Boston Beer Company, Boston, Mass.

(6) The Homebrew Club of the Year award will be awarded to the club that accumulates the most points in all categories of beer, mead and cider. Six points are awarded for a first place, three points for a second place and one point for a third place. Points will be awarded according to the same point scale for the six annual AHA Club-Only Competitions (1997 Extract Extravaganza, 1997 Weisse Is Nice, 1997 Bitter Mania, 1998 Hail to Ale, 1998 Stout Bout, and 1998 Classic Pilsener) and added into the tally. In addition, points are earned under the same 6, 3, 1 system from first round award winners. For your club to receive credit, you must have the club listed on the entry form AND the club must be registered with the AHA by April 1, 1998. These points will be counted toward the Homebrew Club of the Year Award. The Homebrew Club of the Year Award is sponsored by Coopers Brewery of Adelaide, Australia.

(7) At the discretion of Competition organizers and/or judges, awards may not be given if the quality of an entry is not deemed deserving of an award.

D. Judging

(1) First round judging of all beer and mead entries will be done in closed sessions at the AHA National Homebrew Competition first-round sites on May 23 and 24, and May 30 and 31, 1998.

(2) Second round judging of qualifying beer and mead entries will be done at the AHA National Homebrewers Conference in Portland, Ore., July 21, 1998.

(3) Best of show judging of qualifying beer and mead entries will be done at the AHA National Homebrewers Conference in Portland, Ore., July 22, 1998.

(4) All rounds of judging for cider entries will be completed at the appropriate National Homebrew Competition site May 23-24 and/or 30-31, 1998.

(5) Judges and stewards are needed for first and second rounds. Qualified and interested individuals are encouraged to contact the AHA after March 1, 1998.

(6) All decisions by Competition organizers are final.

E. AHA Membership

Non-members can join the AHA today by calling toll free (888) UCAN BREW and qualify for discounted entry forms.

F. Recipe Requirement

A recipe is not required to enter the first round. However, if your entry advances to the second round, you must submit a recipe. Upon entering this Competition, entrants agree to allow (at no cost) publication of their recipe by the Association of Brewers or any of its divisions in any AOB/BP publication. Entrant will receive all due credit.

G. Information and Fees Requirement

All entry fees, names of competitors, address, phone number, category and subcategory entered, and recipes must accompany entries when submitted. No entries will be returned whether received late or otherwise. All entries become property of the AHA.

H. Disqualifications

At the discretion of the AHA and volunteer Competition organizers, entries will be disqualified for eligibility or entry requirement infractions. These entries may still be judged, but will be ineligible for awards or prizes.

I. Results and Qualifying for the Second Round

All entrants will receive the score sheets with judges' comments for his/her entries. Results will be mailed via first-class mail by June 19, 1998. The first-, second- and third-place winners in each category from each first-round site will advance to the second round of the Competition. If your beer or mead qualifies for the second round judging, the AHA will mail you notice by first-class mail by June 17, 1998. You will be instructed on how, when and where to send three (3) additional bottles for judging, to be received in the Portland area between Monday, July 13, and 5 p.m. Friday, July 17, 1998. Contestants are advised to refrigerate or properly store potential second round entries to minimize changes in character. Second round brewers must also submit a recipe form with their entries.

J. Packing and Shipping Hints

Carefully pack your entries in a sturdy box. Line the inside of your carton with a plastic trash bag. Partition and pack each bottle with adequate packaging material. Do not over pack! Write clearly: "Fragile. This Side Up." on the package. Your package should weigh less than 25 pounds.

Every reasonable effort will be made to contact entrants whose bottles have broken to make arrangements for sending replacement bottles. We strongly recommend reusable shipping containers or the kind of shipping containers used by beer-of-the-month clubs. These containers help ensure your beer will arrive safely and will significantly reduce the amount of packaging waste. Please refrain from using packing "peanuts" if possible. Use bubble wrap or newspaper instead. Sites make efforts to recycle packaging material whenever possible.

Refer to the article on "How to Pack Your Beer," in Zymurgy Spring 1991 (Vol. 14, No. 1) for excellent advice on how to save time, money and avoid broken bottles. A product review in Zymurgy Spring 1993 (Vol. 16, No. 1) of reusable containers specially designed for shipping homebrew is also available. Also refer to an article about entering competitions in Zymurgy Spring 1996 (Vol. 19, No. 1). Copies of these articles are available for free upon request if accompanied with a self-addressed stamped envelope or call the AHA, (303) 447-0816.

It is not against any Bureau of Alcohol, Tobacco and Firearms regulations or federal laws to ship your entries via a privately owned shipping company for analytical purposes. However, it is illegal to ship alcoholic beverages via the U.S. Postal Service. Private shipping companies may refuse your shipment if they are informed that the package contains glass or alcoholic beverages. Be aware that entries mailed internationally are often required by customs to have proper documentation. These entries might be opened and/or returned to the shipper by customs' officials at their discretion. It is solely the entrant's responsibility to follow all applicable laws and regulations.

PART IV – CATEGORY DESCRIPTIONS

Carefully read each style description before selecting a specific category for your entry. Category numbers have been changed in some cases.

There are 24 categories of lager, ale or mixed-style beers; three categories of mead; and one category of cider. All have subcategories that use small-letter designations. If a beer is entered, for example, as "10b) strong Scotch ale" it will be judged as a Strong Scotch Ale against the other entries in the English and Scottish Strong Ale category.

The following section gives more detailed information about each category and subcategory. Use this information to decide how to enter your homebrew. Please note that when a style characteristic is designated "OK," this means it does not have to be apparent but it is permissible in amounts indicated. When the term "noble-type" hops is used, it refers to European continental-type hops such as Saaz, Hallertauer, Tettnanger and Spalt, to name a few.

Categories are designated by numbers. Subcategories are designated by letters. Please note the Style Guidelines Chart and the instructions for entering.

ALES

Ales are distinguished by the use of top-fermenting *Saccharomyces cerevisiae* yeast strains. These strains perform at warmer temperatures, the ferments are faster, and fermentation by-products are generally more evident. Ales tend to have a very complex palate where esters and fruity qualities are part of the character.

1. Barley Wine

Category award is sponsored by Edme Ltd., Mistley, Manningtree, England.

a) *English-Style Barley Wine*—Tawny copper to dark brown in color with a full body and high residual malty sweetness. Complexity of alcohols and fruity-ester characters is often high and counterbalanced by the perception of low to medium bitterness and extraordinary alcohol content. Hop aroma and flavor may be minimal to medium, and use of English hop varieties is typical. Low levels of diacetyl may be acceptable. A caramel and vinous aroma and flavor are part of the character. Chill haze is allowable at cold temperatures.

b) *American-Style Barley Wine*—Tawny copper to dark brown in color with a full body and high residual malty sweetness. Complexity of alcohols and fruity-ester characters is often high and counterbalanced by the perception of medium to assertive bitterness and extraordinary alcohol content. Hop aroma and flavor may be medium to very high, and use of American hop varieties is typical. Low levels of diacetyl may be acceptable. A caramel and vinous aroma and flavor are part of the character. Chill haze is allowable at cold temperatures.

2. Belgian- and French-Style Ale

Category award is sponsored by Manneken-Brussel Imports Inc., S.A. Bieres de Chimay, Austin, Texas.

a) *Belgian-Style Flanders Brown/Oud Bruin*—A light- to medium-bodied, deep copper to brown ale characterized by a slight vinegar or lactic sourness and spiciness. A fruity-estery character is apparent with no hop flavor or aroma. Flanders brown ales have low to medium bitterness. Very small quantities of diacetyl are acceptable. Roasted malt character in aroma and flavor is acceptable at low levels. Oaklike or woody characters may be pleasantly integrated into overall palate. Chill haze is acceptable at low serving temperatures. Some versions may be more highly carbonated and when bottle conditioned may appear cloudy (yeast) when served.

b) *Belgian-Style Dubbel*—This medium- to full-bodied, dark amber- to brown-colored ale has a malty sweetness and nutty, chocolate, roast malt aroma. A faint hop aroma is acceptable. Belgian-Style Dubbels also are characterized by low bitterness and no hop flavor. Very small quantities of diacetyl are acceptable. Yeast-generated fruity esters (especially banana) are appropriate at low levels. Head retention is dense and moussellike.

c) *Belgian-Style Tripel*—Tripels often are characterized by a spicy, phenolic-clove flavor. Yeast-generated fruity esters are also common. These pale/light-colored ales usually finish sweet. The beer is characteristically medium to full bodied with a neutral hop and malt balance. Low hop flavor is OK. Alcohol strength and flavor should be perceived as evident.

d) *Belgian-Style Pale Ale*—Belgian-style pale ales are characterized by low, but noticeable, hop bitterness, flavor and aroma. Light to medium body and low malt aroma are typical. They are golden to deep amber in color. "Noble-type" hops are commonly used. Low to medium fruity esters are evident in aroma and flavor. Low caramel or toasted malt flavor is OK. Diacetyl should not be perceived. Chill haze is allowable at cold temperatures.

e) *Belgian-Style Pale Strong Ale*—Belgian-style pale strong ales are pale to golden color with relatively light body for a beer of its alcoholic strength. Often brewed with light Belgian "candy" sugar these beers are well attenuated. The perception of hop bitterness is low to medium with hop flavor and aroma also in this range. These beers are highly attenuated and have a perceptively deceiving high alcoholic character—being light to medium bodied rather than full bodied. The intensity of malt character should be low to medium, often surviving with along with a complex fruitiness. Very little or no diacetyl is perceived. Herbs and spices are sometimes used to delicately flavor these strong ales. Chill haze is allowable at cold temperatures.

f) *Belgian-Style Dark Strong Ale*—Belgian-style dark strong ales are amber to dark brown in color. Often (though not always) brewed with dark Belgian "candy" sugar these beers can be well attenuated, though medium to full bodied. The perception of hop bitterness is low to medium with hop flavor and aroma also in this range. Fruity complexity along with the soft flavors of roasted malts add distinct character. The alcohol strength of these beers can often be deceiving to the senses. The intensity of malt character can be rich, creamy and sweet with intensities ranging from medium to high. Very little or no diacetyl is perceived. Herbs and spices are sometimes used to delicately flavor these strong ales. Chill haze is allowable at cold temperatures.

g) *Belgian-Style White (or Wit)*—Belgian-Style white ales are brewed using unmalted and/or malted wheat and malted barley and can be spiced with coriander and orange peel. These very pale beers are typically cloudy. The style is further characterized by the use of "noble-type" hops to achieve a low to medium bitterness and hop flavor. This dry beer has low to medium body, no diacetyl and a notable fruity-ester content.

h) *French-Style Bière de Garde*—Beers in this category are golden to deep copper or light brown in color. They are light to medium in body. This style of beer is characterized by a toasted malt aroma, slight malt sweetness in flavor, and medium hop bitterness. Noble-type hop aromas and flavors should be low to medium. Fruity esters can be light to medium in intensity. Flavor of alcohol is evident. Earthy, cellarlike, musty aromas are okay. Diacetyl should not be perceived but chill haze is okay. Often bottle conditioned with some yeast character.

3. Belgian-Style Lambic

Category award is sponsored by New Belgium Brewing Co., Fort Collins, Colo.

a) *Belgian-Style Lambic*—Unblended, naturally and spontaneously fermented lambic is intensely estery, sour, and acetic flavored. Low in carbon dioxide, these hazy beers are brewed with unmalted wheat and malted barley. Sweet malt characters are not perceived. They are very low in hop bitterness. Cloudiness is acceptable. These beers are quite dry and light bodied. Versions of this beer made outside of the Brussels area of Belgium cannot be true Lambics. These versions are said to be "lambic-style" and may be well made to resemble many of the beers of true origin.

b) *Belgian-Style Gueuze Lambic*—Old lambic is blended with newly fermenting young lambic to create this special style of lambic. These unflavored blended and secondary fermented lambic beers may be very dry or mildly sweet and are characterized by intense fruity-estery, sour, and acidic aromas and flavors. These pale beers are brewed with unmalted wheat, malted barley, and stale, aged hops. Sweet malt characters are not perceived. They are very low in hop bitterness. Diacetyl should be absent. Cloudiness is acceptable. These beers are quite dry and light bodied. Versions of this beer made outside of the Brussels area of Belgium cannot be true Lambics. These versions are said to be "lambic-style" and may be well made to resemble many of the beers of true origin.

c) *Belgian-Style Fruit Lambic*—These beers, also known by the names framboise, krik, peche, cassis, etc., are characterized by fruit flavors and aromas. The color reflects the choice of fruit. Sourness predominates the flavor profile. These flavored lambic beers may be very dry or mildly sweet and range from a dry to a full-bodied mouthfeel. Versions of this beer made outside of the Brussels area of Belgium cannot be true Lambics. These versions are said to be "lambic-style" and may be well made to resemble many of the beers of true origin.

4. Mild and Brown Ale

Category award is sponsored by Premier Malt Products, Grosse Pointe, Mich.

a) *English-Style Light Mild*—Range from light amber to light brown in color. Malty sweet tones dominate the flavor profile with little hop bitterness or flavor. Hop aroma can be light. Very low diacetyl flavors may be appropriate in this low-alcohol beer. Fruity-ester level is very low. Chill haze is allowable at cold temperatures.

b) *English-Style Dark Mild*—Range from deep copper to dark brown (often with a red tint) in color. Malty sweet, caramel, licorice, and roast malt tones dominate the flavor and aroma profile with very little hop flavor or aroma. Very low diacetyl flavors may be appropriate in this low-alcohol beer. Fruity-ester level is very low.

c) *English-Style Brown Ale*—Range from deep copper to brown in color. They have a medium body and a dry to sweet maltiness with very little hop flavor or aroma.

Fruity-ester flavors are appropriate. Diacetyl should be very low, if evident. Chill haze is allowable at cold temperatures.

d) American-Style Brown Ale—Range from deep copper to brown in color. Roasted malt caramellike and chocolatelike characters should be of medium intensity in both flavor and aroma. American-style brown ales have an evident hop aroma, medium to high hop bitterness, and a medium body. Estery and fruity-ester characters should be subdued; diacetyl should not be perceived. Chill haze is allowable at cold temperatures.

5. English-Style Pale Ale

Category award is sponsored by Wynkoop Brewing Co., Denver, Colo.

a) Classic English-Style Pale Ale—Classic English-style pale ales are golden to copper colored and display English-variety hop character. High hop bitterness, flavor, and aroma should be evident. This medium-bodied pale ale has low to medium malt flavor and aroma. Low caramel character is allowable. Fruity-ester flavors and aromas are moderate to strong. Chill haze is allowable at cold temperatures. Diacetyl (butterscotch character) should be present at very low levels or not perceived.

b) English-Style India Pale Ale—India pale ales are characterized by intense hop bitterness with a high alcohol content. A high hopping rate and the use of water with high mineral content results in a crisp, dry beer. This pale gold to deep copper-colored ale has a full, flowery hop aroma and may have a strong hop flavor (in addition to the hop bitterness). India pale ales possess medium maltiness and body. Fruity-ester flavors and aromas are moderate to very strong. Chill haze is allowable at cold temperatures.

6. American-Style Ale

Category award is sponsored by Northwestern Extract Co., Brookfield, Wis.

a) American-Style Pale Ale—Range from golden to light copper in color. The style is characterized by American-variety hops used to produce high hop bitterness, flavor, and aroma. American pale ales have medium body and low to medium maltiness. Low caramel character is allowable. Fruity-ester flavor and aroma should be moderate to strong. Diacetyl should be absent or present at very low levels. Chill haze is allowable at cold temperatures.

b) American-Style Amber Ale—Range from light copper to light brown in color. Amber ales are characterized by American-variety hops used to produce high hop bitterness, flavor, and aroma. Amber ales have medium to high maltiness with medium to low caramel character. They should have medium body. The style may have low levels of fruity-ester flavor and aroma. Diacetyl can be either absent or barely perceived at very low levels. Chill haze is allowable at cold temperatures. Slight yeast haze is acceptable for bottle-conditioned products.

c) American-Style Wheat—This beer can be made using either an ale or lager yeast. Brewed with 30 to 50 percent wheat, hop rates may be higher, and carbonation is lower than German-style wheat beers. Fruity-estery aroma and flavor are typical but at low levels; however, phenolic, clovelike characteristics should not be perceived. Color is usually golden to light amber, and the body should be light to medium in character. Diacetyl should be at very low levels.

7. English-Style Bitter

Category award is sponsored by Alternative Beverage, Charlotte, N.C.

a) English-Style Ordinary Bitter—Ordinary bitter is gold to copper colored with medium bitterness, light to medium body, and low to medium residual malt sweetness. Hop flavor and aroma character may be evident at the brewers discretion. Mild carbonation traditionally characterize draft-cask versions, but in bottled versions, a slight increase in carbon dioxide content is acceptable. Fruity-ester character and very low diacetyl (butterscotch) character are acceptable in aroma and flavor, but should be minimized in this form of bitter. Chill haze is allowable at cold temperatures.

b) English-Style (Special) Best Bitter—Special bitter is more robust than ordinary bitter. It has medium body and medium residual malt sweetness. It is gold to copper colored with medium bitterness. Hop flavor and aroma character may be evident at the brewers discretion. Mild carbonation traditionally characterize draft-cask versions, but in bottled versions, a slight increase in carbon dioxide content is acceptable. Fruity-ester character and very low diacetyl (butterscotch) character are acceptable in aroma and flavor. Chill haze is allowable at cold temperatures.

c) English-Style (Extra Special) Strong Bitter—Extra special bitter possesses medium to strong hop qualities in aroma, flavor, and bitterness. The residual malt sweetness of this richly flavored, full-bodied bitter is more pronounced than in other bitters. It is gold to copper colored with medium bitterness. Mild carbonation traditionally characterize draft-cask versions, but in bottled versions, a slight increase in carbon dioxide content is acceptable. Fruity-ester character and very low diacetyl (butterscotch) character are acceptable in aroma and flavor. Chill haze is allowable at cold temperatures.

8. Scottish-Style Ale

Category award is sponsored by Yakima Brewing Co., Yakima, Wash.

a) Scottish-Style Light Ale—Scottish-style light ales are light bodied. Little bitterness is perceived and hop flavor or aroma should not be perceived. Despite its lightness, Scottish-style light ale will have a degree of malty, caramellike, soft and chewy character. Yeast characters such as diacetyl (butterscotch) and sulfuriness are acceptable at very low levels. The color will range from golden amber to deep brown in color and may sometimes possess a faint smoky character. Bottled versions of this traditional draft beer may contain higher amounts of carbon dioxide than is typical for mildly carbonated draft versions. Chill haze is acceptable at low temperatures.

b) Scottish-Style Heavy Ale—Scottish-style heavy ale is moderate in strength and dominated by a smooth, sweet maltiness balanced with low, but perceptible, hop bitterness. Hop flavor or aroma should not be perceived. Scottish-style heavy ale will have a medium degree of malty, caramellike, soft and chewy character in flavor and mouthfeel. It has medium body, and fruity esters are very low, if evident. Yeast characters such as diacetyl (butterscotch) and sulfuriness are acceptable at very low levels. The color will range from golden amber to deep brown in color and may sometimes possess a faint smoky character. Bottled versions of this traditional draft beer may contain higher amounts of carbon dioxide than is typical for draft versions. Chill haze is acceptable at low temperatures.

c) Scottish-Style Export Ale—The overriding character of Scottish-style export ale is sweet, caramellike, and malty. Its bitterness is perceived as low to medium. Hop flavor or aroma should not be perceived. It has medium body. Fruity-ester character may be apparent. Yeast characters such as diacetyl (butterscotch) and sulfuriness are acceptable at very low levels. The color will range from golden amber to deep brown in color and may sometimes possess a faint smoky character. Bottled versions of this traditional draft beer may contain higher amounts of carbon dioxide than is typical for mildly carbonated draft versions. Chill haze is acceptable at low temperatures.

9. Porter

Category award is sponsored by Left Hand Brewing Co., Longmont, Colo.

a) Brown Porter—Brown porters are mid to dark brown (may have red tint) in color. No roast barley or strong burnt malt character should be perceived. Low to medium malt sweetness is acceptable along with medium hop bitterness. This is a light- to medium-bodied beer. Fruity esters are acceptable. Hop flavor and aroma may vary from being negligible to medium in character.

b) Robust Porter—Robust porters are black in color and have a roast malt flavor but no roast barley flavor. These porters have a sharp bitterness of black malt without a highly burnt/charcoal flavor. Robust porters range from medium to full in body and have a malty sweetness. Hop bitterness is medium to high, with hop aroma and flavor ranging from negligible to medium. Fruity esters should be evident, balanced with roast malt and hop bitterness.

10. English- and Scottish-Style Strong Ale

Category award is sponsored by Wine & Hop Shop, Denver, Colo.

a) English-Style Old Ale/English-Style Strong Ale—English Old Ale/English Strong Ale - Strong and Very Strong Amber to mid-range brown in color, English strong ales are medium to full bodied with a malty sweetness. Hop aroma should be minimal and flavor can vary from none to medium in character intensity. Fruity-ester flavors and aromas can contribute to the character of this ale. Bitterness should be minimal but evident and balanced with malt and/or caramellike sweetness. Alcohol types can be varied and complex. A distinctive quality of these ales is that they all undergo a prolonged aging process (often for years) on their yeast either in bulk storage or through

conditioning in the bottle which contributes to a rich, often sweet and complex estery character. This process often softens the perceived bitterness. Chill haze is acceptable at low temperatures.

b) Strong Scotch Ale—Scotch ales are overwhelmingly malty and full bodied. Perception of hop bitterness is very low. Hop flavor and aroma are very low or nonexistent. Color ranges from deep copper to brown. The clean alcohol flavor balances the rich and dominant sweet maltiness in flavor and aroma. A caramel character is often a part of the profile. Fruity esters are generally at medium aromatic and flavor levels. A peaty/smoky character may be evident at low levels. Low diacetyl levels are acceptable. Chill haze is allowable at cold temperatures.

11. Stout

Category award is sponsored by Alternative Garden Supply D/B/A Brew & Grow, Streamwood, Ill.

a) Classic Irish-Style Dry Stout—Dry stouts have an initial malt and caramel flavor profile with a distinctive dry-roasted bitterness in the finish. Dry stouts achieve a dry-roasted character through the use of roasted barley. Some slight acidity may be perceived but is not necessary. Hop aroma and flavor should not be perceived. Dry stouts have a light to medium body. Fruity esters are minimal and overshadowed by notable hop bitterness and roasted barley character. Diacetyl (butterscotch) should be very low or not perceived. Head retention and rich character should be part of its visual character.

b) Foreign-Style Stout—Foreign-style stouts have an initial malt sweetness and caramel flavor with a distinctive dry-roasted bitterness in the finish. Some slight acidity is permissible, and a medium- to full-bodied mouthfeel is appropriate. Hop aroma and flavor should not be perceived. The perception of fruity esters is low. Diacetyl (butterscotch) should be negligible or not perceived. Head retention is excellent.

c) Sweet Stout—Sweet stouts, also referred to as cream stouts, have less roasted bitter flavor and more full-bodied mouthfeel than dry stouts. The style can be given more body with milk sugar (lactose) before bottling. Malt sweetness, chocolate and caramel flavor should dominate the flavor profile. Hops should balance sweetness without contributing apparent flavor or aroma.

d) Oatmeal Stout—Oatmeal stouts typically include oatmeal in their grist, resulting in a pleasant, full flavor and smooth profile that is rich without being grainy. Roasted malt character of caramel and chocolate should be evident, smooth and not bitter. Bitterness is moderate—not high. Hop flavor and aroma are optional but should not overpower the overall balance. This is a medium- to full-bodied beer with minimal fruity esters.

e) Imperial Stout—Dark copper to very black, imperial stouts typically have alcohol contents exceeding 8 percent. The extremely rich malty flavor and aroma are balanced with assertive hopping and fruity-ester characteristics. Perceived bitterness can be moderate, balanced with malt character, to very high in the darker versions. Roasted malt astringency and bitterness can be perceived moderately but should not overwhelm the overall character. Hop aroma can be subtle to overwhelmingly floral. Diacetyl (butterscotch) levels should be very low.

LAGER

Lagers are produced with bottom-fermenting *Saccharomyces uvarum* (a.k.a. *S. carlsbergensis*) strains of yeast at colder fermentation temperatures than ales. This cooler environment inhibits the natural production of esters and other fermentation by-products, creating a “cleaner-tasting” product.

12. Bock

Category award is sponsored by Washington Hop Commission, Yakima, Wash.

a) Traditional German-Style Bock—Traditional bocks are made with all malt and are strong, malty, medium- to full-bodied, bottom-fermented beers with low hop bitterness that should increase proportionately with the starting gravity. Hop flavor should be low, and hop aroma should be very low. Bocks can range in color from deep copper to dark brown. Fruity esters may be perceived at low levels.

b) German-Style Helles Bock/Maibock—The German word “helles” means light colored, and, as such, a helles bock is light in color. Maibocks also are light-colored bocks. The malty character should come through in the aroma and flavor. Body is medium to full. Hop bitterness should be low, while “noble-type” hop aroma and flavor may be at low to medium levels. Bitterness increases with gravity. Fruity esters should be minimal. Diacetyl levels should be very low. Chill haze should not be perceived.

c) German-Style Doppelbock—Malty sweetness is dominant but should not be cloying. Doppelbocks are full bodied and deep amber to dark brown color. Astringency from roast malts is absent. Alcoholic strength is high, and hop rates increase with gravity. Hop bitterness and flavor should be low and hop aroma absent. Fruity esters are commonly perceived but at low to moderate levels.

d) German-Style Eisbock—Deep copper to black and very alcoholic. Aroma and flavor profile is similar to doppelbock. Traditionally this beer is brewed by freezing a doppelbock and removing the resulting ice to concentrate the beer and increase the alcohol content.

13. German-Style Dark Lager

Category award is sponsored by Homebrew Headquarters, Dallas, Texas.

a) Munich-Style Dunkel—These beers have a pronounced malty aroma and flavor that dominate over the clean, crisp, moderate hop bitterness. A classic Münchner dunkel should have a chocolatelike, roasted malt, breadlike aroma that comes from the use of Munich dark malt. Chocolate or roast malts can be used, but the percentage should be minimal. “Noble-type” hop flavor and aroma should be low but perceptible. Diacetyl is acceptable at very low levels. Fruity esters and chill haze should not be perceived.

b) Schwarzbier—Dark brown to black. It has a medium body. Roasted malt evident. Low sweetness in aroma and flavor, Schwarzbier has low to medium bitterness—low bitterness is from roast malt. “Noble-type” hop flavor and aroma are OK. No fruitiness, esters. Low diacetyl is OK.

14. German-Style Light Lager

Category award is sponsored by Briess Malting Co., Chilton, Wis.

a) Munich-Style Helles—This beer has a relatively low bitterness. It is a medium-bodied malt-emphasized beer, however certain versions can approach a balance of hop character and maltiness. There should not be any caramel character. Color is light straw to golden. Fruity esters and diacetyl should not be perceived.

b) Dortmunder/European-Style Export—Both starting gravity and medium bitterness are somewhat higher than a Munich helles. Hop flavor and aroma are perceptible but low. The color of this style may be slightly darker, and the body will be more full but still medium bodied. Fruity esters, chill haze and diacetyl should not be perceived.

15. Classic Pilsener

Category award is sponsored by Red Ass Brewing Co., Fort Collins, Colo.

a) German-Style Pilsener—A classic German Pilsener is very light straw/golden color and well hopped. Hop bitterness is high. Hop aroma and flavor are moderate and quite obvious. It is a well-attenuated and medium-bodied beer, but a malty accent can be perceived. Fruity esters and diacetyl should not be perceived. There should be no chill haze. The head should be dense and rich.

b) Bohemian-Style Pilsener—Pilseners in this subcategory are similar to German Pilseners, however they are slightly more full bodied and can be as dark as light amber. This style balances moderate to high bitterness and “noble-type” hop aroma and flavor with a malty, slightly sweet, medium body. Diacetyl may be perceived in very low amounts. There should be no chill haze. The head should be dense and rich.

c) American-Style Pilsener—This classic and unique pre-Prohibition American-style Pilsener is straw to deep gold in color. Hop bitterness, flavor and aroma are medium to high, and use of “noble-type” hops for flavor and aroma is preferred. Up to 25 percent corn in the grist should be used, and some slight sweetness and flavor of corn are expected. A low level of DMS is acceptable. Malt flavor and aroma are medium. This is a medium-bodied beer. Fruity esters and citrusy flavors or aromas should not be

perceived. Slight diacetyl is acceptable. There should be no chill haze.

16. American Lager

Category award is sponsored by Jacob Linenkugel's Brewing Co., Chippewa Falls, Wis.

- a) *American Lager*—Very light in body and color, American lagers are very clean, crisp and aggressively carbonated. Malt sweetness is absent. Corn, rice or other grain or sugar adjuncts are often used. Hop aroma is absent. Hop bitterness is slight, and hop flavor is mild or negligible. Chill haze, fruity esters and diacetyl should be absent.
- b) *American-Style Light Lager*—According to Food and Drug Administration regulations, when used in reference to caloric content, “light” beers must have at least 25 percent fewer calories than the “regular” version of that beer. These beers are extremely light colored, light in body and high in carbonation. Flavor is mild, and bitterness is very low. Chill haze, fruity esters and diacetyl should be absent.
- c) *American Lager/Ale or Cream Ale*—This mild, pale, light-bodied ale is made using a warm fermentation (top or bottom) and cold lagering or by blending top- and bottom-fermented beers. Hop bitterness and flavor are very low. Hop aroma often is absent. Sometimes referred to as cream ales, these beers are crisp and refreshing. A fruity or estery aroma may be perceived. Diacetyl and chill haze should not be perceived.
- d) *American-Style Premium Lager*—Similar to the American lager, this style is a more flavorful, medium-bodied beer and may contain few or no adjuncts. Color may be deeper than the American lager, and alcohol content and bitterness may be greater. Hop aroma and flavor are low or negligible. Chill haze, fruity esters and diacetyl should be absent.
- e) *American Dark Lager*—This beer's maltiness is less pronounced, and its body is light. Non-malt adjuncts often are used, and hop rates are low. Hop bitterness flavor and aroma are low. Carbonation is high and more typical of an American-style light lager than a European dark lager. Fruity esters, diacetyl and chill haze should not be perceived.

17. Vienna/Märzen/Oktobertfest

Category award is sponsored by F.H. Steinbart, Portland, Ore.

- a) *Vienna*—Beers in this category are reddish brown or copper colored. They are light to medium in body. The beer is characterized by malty aroma, slight malt sweetness and clean hop bitterness. “Noble-type” hop aromas and flavors should be low to medium. Fruity esters, diacetyl and chill haze should not be perceived.
- b) *Märzen/Oktobertfest*—Märzens are characterized by a medium body and broad range of color. Oktobertests can range from golden to reddish brown. Sweet or toasty maltiness should dominate slightly over a clean hop bitterness. Malt character should be toasted rather than strongly caramel. Hop aroma and flavor should be low but notable. Fruity esters are minimal, if perceived at all. Diacetyl and chill haze should not be perceived.

HYBRID/MIXED STYLES

The following beers are fermented or aged with mixed traditions. They can be brewed as an ale or lager (please include unusual ingredients) or be made using unusual techniques or procedures.

18. German-Style Ale

Category award is sponsored by H.C. Berger, Fort Collins, Colo.

- a) *German-Style Kölsch/Köln-Style Kölsch*—German-Style Kölsch is warm-fermented and aged at cold temperatures (German ale or alt-style beer). German-Style Kölsch is characterized by a golden color and a slightly dry, winy and subtly sweet palate. Caramel character should not be evident. The body is light. This beer has low hop flavor and aroma with medium bitterness. Wheat can be used in brewing this beer which is fermented using ale or lager yeasts. Fruity esters should be minimally perceived, if at all. Chill haze should be absent or minimal.
- b) *Düsseldorf-Style Altbier*—Copper to brown in color, this German ale may be highly hopped (though the 25 to 35 IBU range is more normal for the majority of altbiers from Düsseldorf) and has a medium body and malty flavor. A variety of malts, including wheat, may be used. Hop character may be evident in the flavor. The overall impression is clean, crisp and flavorful. Fruity esters should be low. No diacetyl or chill haze should be perceived.

19. German-Style Wheat Beer

Category award is sponsored by Tabernash Brewing Co., Denver, Colo.

- a) *Berliner-Style Weisse*—This is the lightest of all the German wheat beers. The unique combination of a yeast and lactic acid bacteria fermentation yields a beer that is acidic, highly attenuated and very light bodied. The carbonation of a Berliner weisse is high, and hop rates are very low. Hop character should not be perceived. Fruity esters are evident. No diacetyl should be perceived.
- b) *German-Style Hefeweizen/Hefeweissbier*—The aroma and flavor of a weissbier are decidedly fruity and phenolic. The phenolic characteristics are often described as clove- or nutmeglike and can be smoky or even vanillalike. These beers are made with at least 50 percent malted wheat, and hop rates are quite low. Weissbier is highly carbonated and medium to full bodied. Bananalike esters are often present. If yeast is present, the beer will appropriately have a subtle breadlike yeast flavor and a characteristically fuller mouthfeel. No diacetyl should be perceived. Cloudiness is OK.
- c) *German-Style Dunkelweizen*—This beer style is characterized by a distinct sweet maltiness, and roasted malt and chocolatelike character, but the estery and phenolic elements of a pale weissbier are present. Color can range from copper-brown to dark brown. Carbonation and hop bitterness are similar to a pale South German-style weissbier. Usually dark barley malts are used in conjunction with dark Cara or color malts, and the percentage of wheat malt is at least 50 percent. No diacetyl should be perceived.
- d) *German-Style Weizenbock*—This style can be either pale or dark and, like a bottom-fermented bock, has a high starting gravity and alcohol content. The malty sweetness of a weizenbock is balanced with a clovelike phenolic and fruity-estery banana element to produce a well-rounded aroma and flavor. As is true with all German wheat beers, hop rates are low, and carbonation is high. It has a medium to full body. If dark, a mild roast malt character should emerge in flavor and, to a lesser degree, in the aroma. No diacetyl should be perceived.

20. Smoked Beer

Category award is sponsored by Jim's Homebrew Supply, Spokane, Wash.

- a) *Bamberg-Style Rauchbier*—Rauchbier should have smoky characters prevalent in the aroma and flavor. The beer is generally toasted, malty sweet and full bodied with low to medium hop bitterness. “Noble-type” hop flavor is low, but perceptible. Low “noble-type” hop aroma is optional. The aroma should strike a balance between malt, hop and smoke. Fruity esters, diacetyl and chill haze should not be perceived.
- b) *Classic-Style Smoked Beer*—Any classic style of beer can be smoked. The goal is to reach a balance between the style's character and the smoky properties.
- c) *Other Smoked Beer*—Any beer to which smoke flavors have been added.

21. Fruit and Vegetable Beer

Category award is sponsored by the Purple Foot, Milwaukee, Wis.

- a) *Fruit and Vegetable Beer*—Any beer using fruits or vegetables as an adjunct in either primary or secondary fermentation, providing obvious, yet harmonious, fruit and vegetable qualities. Fruit and vegetable qualities should not be overpowered by hop character. If a fruit or vegetable (such as juniper berry or chili pepper) has an herbal or spice quality, it is more appropriate to enter it in the Herb and Spice Beer category.
- b) *Classic-Style Fruit and Vegetable Beer*—Any classic-style beer using fruits or vegetables as part of the flavor profile and providing obvious, yet harmonious, fruit and vegetable qualities.

22. Herb and Spice Beer

Category award is sponsored by Marin Brewing Co., Larkspur, Calif.

a) *Herb and Spice Beer*—Use of herbs or spices (derived from roots, seeds, fruits, vegetables, flowers, etc.) other than hops to create a distinct character. Underhopping allows the spice or herb to contribute to the flavor profile.

b) *Classic-Style Herb and Spice Beer*—Any classic-style beer using herbs or spices as part of the flavor profile and providing obvious, yet harmonious, herb and spice flavor.

23. Specialty and Experimental Beer

Category award is sponsored by Great Western Malting Company, Vancouver, Wash.

Any ale or lager brewed using unusual techniques and/or ingredients other than (or in addition to) malted barley as a unique contribution to the overall character of the beer. Examples of specialty beers include (but are not limited to) beers brewed with honey, maple sap or syrup; worts heated with white-hot stones; and low- or nonalcoholic beers. Examples do not include the use of fruit or herbs, although they can be used to add to the character of other ingredients. The overall uniqueness and experimental quality of the beer should be considered.

a) *Specialty Beer*—Any nonclassic style fitting the above description.

b) *Classic-Style Specialty Beer*—Any classic ale or lager to which special ingredients have been added or a special process has been used. Examples include honey Pilsener, maple porter, sorghum stout, pumpkin pale ale. Brewer should specify classic style.

24. California Common Beer

Category award is sponsored by Anchor Brewing Co., San Francisco, Calif.

a) *California Common Beer*—Light amber to copper. This beer has a medium body, toasted or caramellike maltiness in aroma and flavor, and medium to high hop bitterness. Hop flavor is medium to high. Aroma is medium, and fruitiness and esters are low. Low diacetyl is OK. Uses lager yeast. This beer is fermented at warm temperatures but aged at cold temperatures.

MEAD

Mead is produced by the fermentation of honey, water, yeast and optional ingredients such as fruit, herbs and/or spices. The final gravity roughly determines whether the mead is: dry—less than 1.010, medium—1.010 to 1.025 or sweet—1.025 and higher. Final gravity is only a guide. The final flavor character of the product should be used to determine the perceived level of sweetness. The sweetness level must be designated on the entry form. Wine, champagne, sherry, mead, ale or lager yeast may be used. In all categories the honey character must be apparent in both the aroma and flavor, and an overall balance between sweetness, acidity and ingredients should be achieved. Honey should make up greater than 50 percent of fermentable ingredients. Meads should be free of harsh or stale characteristics.

25. Traditional Mead and Braggot

Category award is sponsored by Bacchus & Barleycorn, Ltd., Shawnee, Kan.

a) *Sparkling Traditional Mead*—Effervescent. Dry, medium or sweet (designate on entry form). Light to medium body. No flavors other than honey. Honey character in aroma and flavor. Low to medium fruity acidity. Color depends on honey type.

b) *Still Traditional Mead*—Not effervescent. Dry, medium sweet or very sweet (designate on entry form). Light to full body. Honey character in aroma and flavor. Low to medium fruity acidity. Color depends on honey type.

c) *Sparkling Braggot*—Effervescent. Made with malt and honey. Dry, medium or sweet (designate on entry form). Light to medium body. Honey flavors predominate.

d) *Still Braggot*—Not effervescent. Made with malt. Dry, medium or sweet (designate on entry form). Light to medium body. Honey flavors predominate.

26. Fruit and Vegetable Mead

Category award is sponsored by U Brew Corp., Millburn, N.J.

Melomel is made with any fruit or vegetable except apples or grapes. Cyser is made with apples and/or apple juice. Pymment is made with grapes. Ingredients should be expressed in aroma and flavor. Color should represent ingredients. Honey character apparent in aroma and flavor. Absence of harsh or stale character. Can be dry, medium or sweet, which must be designated on entry form.

a) *Sparkling Melomel*—Effervescent. Light to medium body.

b) *Still Melomel*—Not effervescent. Light to full body.

c) *Sparkling Cyser*—Effervescent. Light to medium body.

d) *Still Cyser*—Not effervescent. Light to full body.

e) *Sparkling Pymment*—Effervescent. Light to medium body.

f) *Still Pymment*—Not effervescent. Light to full body.

27. Herb and Spice Mead

Category award is sponsored by Colorado Spice, Inc., Boulder, Colo.

Metheglin is made with any herbs or spices. Hippocras is made with spices and grapes (spiced pymment). Ingredients should be expressed in aroma and flavor. Color should represent ingredients. Honey character must be apparent in aroma and flavor. Absence of harsh or stale character. Can be dry, medium or sweet, which must be designated on entry form.

a) *Sparkling Metheglin*—Effervescent. Light to medium body.

b) *Still Metheglin*—Not effervescent. Light to full body.

c) *Sparkling Hippocras*—Effervescent. Light to medium body.

d) *Still Hippocras*—Not effervescent. Light to full body.

CIDER

Ciders are produced by the fermentation of apple juices and optional ingredients such as fruits and spices. Wine, champagne, ale, lager or wild yeasts may be used.

28. Cider

Category award is sponsored by Widmer Brothers Brewing Co., Portland, Ore.

Cider made with honey as an adjunct (cyser) should be entered in category 26: Fruit and Vegetable Mead.

a) *Still*—Not effervescent. Less than 5.5 percent alcohol by weight (7 percent by volume). Can be dry or sweet. Pale yellow color, must be clear or brilliant. Apple aroma. Light-bodied and crisp apple flavor. Sugar adjuncts may be used.

b) *Sparkling*—Effervescent but not foamy. May be force carbonated. No head. Less than 6.3 percent alcohol by weight (8 percent by volume). Dry or sweet. Pale yellow color, must be clear and brilliant. Light to medium body, crisp apple taste. Sugar adjuncts may be used.

c) *New England-Style*—Still or sparkling dry cider. Carbonation must be natural. Between 6.3 and 11 percent alcohol by weight (8 and 14 percent by volume). Pale to medium yellow color. Pronounced apple aroma. Medium to full body. Balanced by drying tannins but never hot because of excess alcohol. Adjuncts include white and brown sugars, molasses or raisins. Wild or wine yeasts only.

d) *Specialty Cider*—Any and all adjuncts and yeasts may be used. Alcohol content must be below 11 percent alcohol by weight (14 percent by volume). At least 75 percent apple juice must be used in the must.

1998 STYLE GUIDELINES CHART

	OG (°P) Original Gravity (Balling/Plato)	FG (°P) Final Gravity (Balling/Plato)	Percent Alc./Wgt. (Alc./Vol.)	Int'l Bittering Units	Color SRM (EBC)
Ale					
1. Barley Wine					
a) English-Style Barley Wine	1.085-120 (21- 30.0)	1.024-32 (6-8)	6.7-9.6 (8.5-12.2)	50-100	14-22 (28-43)
b) American-Style Barley Wine	1.085-120 (21- 30.0)	1.024-32 (6-8)	6.7-9.6 (8.5-12.2)	50-100	14-22 (28-43)
2. Belgian- and French-Style Ale					
a) Belgian-Style Flanders Brown/Oud Bruin	1.044-56 (11.0-14.0)	1.008-16 (2-4)	3.8-4.1 (4.8-5.2)	15-25	12-18 (24-35)
b) Belgian-Style Dubbel	1.050-70 (12.5-17.5)	1.012-16 (3-4)	4.7-5.9 (6.0-7.5)	18-25	10-14 (20-28)
c) Belgian-Style Tripel	1.060-96 (15.0-24.0)	1.016-24 (4-6)	5.5-7.9 (7.0-10.1)	20-25	4-6 (7-11)
d) Belgian-Style Pale Ale	1.044-54 (11.0-13.5)	1.008-14 (2-4)	3.2-4.9 (4.1-6.2)	20-30	4-12 (7-24)
e) Belgian-Style Pale Strong Ale	1.064-96 (16.0-24.0)	1.012-24 (3-6)	5.5-8.8 (7.0-11.0)	20-50	3.5-7 (7-14)
f) Belgian-Style Dark Strong Ale	1.064-96 (16.0-24.0)	1.012-24 (3-6)	5.5-8.8 (7.0-11.0)	20-50	7-20 (14-40)
g) Belgian-Style White (Wit)	1.044-50 (11.0-12.5)	1.006-10 (2-3)	3.8-4.1 (4.8-5.2)	15-25	2-4 (4-8)
h) French-Style Bière de Garde	1.060-80 (15.0-20.0)	1.012-16 (3-4)	3.5-6.3 (4.5-8.0)	25-30	8-12 (16-24)
3. Belgian-Style Lambic					
a) Belgian-Style Lambic	1.044-56 (11.0-14.0)	1.000-10 (0-3)	4.0-5.0 (5.1-6.4)	11-23	6-13 (12-26)
b) Belgian-Style Gueuze Lambic	1.044-56 (11.0-14.0)	1.000-10 (0-3)	4.0-5.0 (5.1-6.4)	11-23	6-13 (12-26)
c) Belgian-Style Fruit Lambic	1.040-72 (10.0-18.0)	1.008-16 (2-4)	4.0-5.5 (5.1-7.0)	15-21	n/a
4. Mild and Brown Ale					
a) English-Style Light Mild	1.030-38 (7.5-9.5)	1.004-8 (1-2)	2.7-3.2 (3.4-4.1)	10-24	8-17 (16-33)
b) English-Style Dark Mild	1.030-38 (7.5-9.5)	1.004-8 (1-2)	2.7-3.2 (3.4-4.1)	10-24	17-34 (33-67)
c) English-Style Brown	1.040-50 (10.0-12.5)	1.008-14 (2-4)	3.3-4.7 (4.2-6.0)	15-25	15-22 (30-43)
d) American-Style Brown	1.040-55 (10.0-13.8)	1.010-18 (3-5)	3.3-4.7 (4.2-6.0)	25-60	15-22 (30-43)
5. English-Style Pale Ale					
a) Classic English-Style Pale Ale	1.044-56 (11.0-14.0)	1.008-16 (2-4)	3.5-4.2 (4.5-5.4)	20-40	4-11 (8-22)
b) India Pale Ale	1.050-70 (12.5-17.5)	1.012-18 (3-5)	4.0-6.0 (5.1-7.6)	40-60	6-14 (12-28)
6. American-Style Ale					
a) American-Style Pale Ale	1.044-56 (11.0-14.0)	1.008-16 (2-4)	3.5-4.3 (4.5-5.5)	20-40	4-11 (8-22)
b) American-Style Amber Ale	1.044-56 (11.0-14.0)	1.006-16 (2-4)	3.5-4.3 (4.5-5.5)	20-40	11-18 (22-35)
c) American-Style Wheat	1.030-50 (7.5-12.5)	1.004-18 (1-5)	2.8-3.6 (3.6-4.6)	12-17	2-8 (4-16)
7. English-Style Bitter					
a) English-Style Ordinary Bitter	1.033-38 (8.2-9.5)	1.006-12 (2-3)	2.4-.0 (3.1-3.8)	20-35	8-12 (16-24)
b) English-Style Best (Special) Bitter	1.038-45 (9.5-11.3)	1.006-12 (2-3)	3.3-3.8 (4.2-4.8)	28-46	12-14 (24-28)
c) English-Style Strong (Extra Special) Bitter	1.046-60 (11.5-15.0)	1.010-16 (3-4)	3.8-4.6 (4.8-5.9)	30-55	12-14 (24-28)
8. Scottish-Style Ale					
a) Scottish-Style Light Ale	1.030-35 (7.5-8.8)	1.006-12 (2-3)	2.2-2.8 (2.8-3.6)	9-20	8-17 (16-33)
b) Scottish-Style Heavy Ale	1.035-40 (8.7-10.0)	1.010-14 (3-4)	2.8-3.2 (3.6-4.1)	12-20	10-19 (20-37)
c) Scottish-Style Export Ale	1.040-50 (10.0-12.5)	1.010-18 (3-5)	3.2-3.6 (4.1-4.6)	15-25	10-19 (20-37)
9. Porter					
a) Brown Porter	1.045-60 (11.3-15.0)	1.008-16 (2-4)	3.5-4.7 (4.5-6.0)	20-30	20-30 (39-59)
b) Robust Porter	1.045-60 (11.3-15.0)	1.008-16 (2-4)	4.0-5.2 (5.1-6.6)	25-40	30+ (59+)
10. English- and Scottish-Style Strong Ale					
a) English Old Ale/English Strong Ale	1.055-125 (13.8-31.5)	1.010-40 (2.5-10)	4.2-8.9 (5.3-11)	24-80	8-21 (16-42)
b) Strong Scotch Ale	1.072-85 (18.0-21.3)	1.016-28 (4-7)	5.2-6.7 (6.6-8.5)	25-35	10-25 (20-49)
11. Stout					
a) Classic Irish-Style Dry Stout	1.038-48 (9.5-12.0)	1.008-14 (2-4)	3.2-4.2 (4.1-5.4)	30-40	40+ (79+)
b) Foreign-Style Stout	1.052-72 (13.0-18.0)	1.008-20 (2-5)	4.8-6.0 (6.1-7.6)	30-60	40+ (79+)
c) Sweet Stout	1.045-56 (11.3-14.0)	1.012-20 (3-5)	2.5-5.0 (3.2-6.4)	15-25	40+ (79+)
d) Oatmeal Stout	1.038-56 (9.5-14.0)	1.008-20 (2-5)	3.0-4.8 (3.8-6.1)	20-40	20+ (39+)
e) Imperial Stout	1.075-90 (18.8-22.5)	1.020-30 (5-8)	5.5-7.0 (7.0-8.9)	50-80	20+ (39+)
Lager					
12. German-Style Bock					
a) Traditional German-Style Bock	1.066-74 (16.5-18.5)	1.018-24 (5-6)	5.0-6.0 (6.4-7.6)	20-30	15-30 (30-59)
b) German-Style Helles Bock/Maibock	1.066-68 (16.5-17.0)	1.012-20 (3-5)	5.0-6.0 (6.4-7.6)	20-35	4-10 (8-20)
c) German-Style Doppelbock	1.074-80 (18.5-20.0)	1.020-28 (5-7)	5.2-6.2 (6.6-7.9)	17-27	12-30 (24-59)
d) German-Style Eisbock	1.092-116 (23.0-29.0)	n/a	6.8-11.3 (8.7-14.4)	26-33	18-50 (35-99)
13. German-Style Dark Lager					
a) Munich-Style Dunkel	1.052-56 (13.0-14.0)	1.014-18 (4-5)	3.8-4.2 (4.8-5.4)	16-25	17-20 (33-39)
b) German-Style Schwarzbier	1.044-52 (11.0-13.0)	1.012-16 (3-4)	3.0-3.9 (3.8-5.0)	22-30	25-30 (49-59)

	OG (°P) Original Gravity (Balling/Plato)	FG (°P) Final Gravity (Balling/Plato)	Percent Alc./Wgt. (Alc./Vol.)	Int'l Bittering Units	Color SRM (EBC)
14. German-Style Light Lager					
a) Munich-Style Helles	1.044–50 (11.0–12.5)	1.008–12 (2–3)	3.8–4.4 (4.8–5.6)	18–25	4–5.5 (8–11)
b) Dortmunder/European-Style Export	1.048–56 (12.0–14.0)	1.010–14 (3–4)	4.0–4.8 (5.1–6.1)	23–29	3–5 (6–10)
15. Classic Pilsener					
a) German-Style Pilsener	1.044–50 (11.0–12.5)	1.006–12 (2–3)	3.6–4.2 (4.6–5.4)	30–40	3–4 (6–8)
b) Bohemian-Style Pilsener	1.044–56 (11.0–14.0)	1.014–20 (4–5)	3.2–4.0 (4.1–5.1)	35–45	3–5 (6–10)
c) American-Style Pilsener	1.045–60 (11.3–15.0)	1.012–18 (3–5)	3.9–4.7 (5.0–6.0)	20–40	3–6 (6–12)
16. American-Style Lager					
a) American-Style Lager	1.040–46 (10.0–11.5)	1.006–10 (2–3)	3.2–3.8 (4.1–4.8)	5–17	2–4 (4–8)
b) American-Style Light Lager	1.024–40 (6.0–10.0)	1.002–8 (1–2)	2.8–3.5 (3.6–4.5)	8–15	2–4 (4–8)
c) American-Style Lager/Ale or Cream Ale	1.044–56 (11.0–14.0)	1.004–10 (1–3)	3.4–4.5 (4.3–5.7)	10–22	2–5 (4–10)
d) American-Style Premium Lager	1.046–50 (11.5–12.5)	1.010–14 (3–4)	3.6–4.0 (4.6–5.1)	13–23	2–6 (4–12)
e) American-Style Dark Lager	1.040–50 (10.0–12.5)	1.008–12 (2–3)	3.2–4.4 (4.1–5.6)	14–20	14–25 (28–50)
17. Vienna/Märzen/Okttoberfest					
a) Vienna-Style Lager	1.048–56 (12.0–14.0)	1.012–18 (3–5)	3.8–4.3 (4.8–5.5)	22–28	8–12 (16–24)
b) German-Style Märzen/Okttoberfest	1.050–56 (12.5–14.0)	1.012–20 (3–5)	4.0–4.7 (5.1–6.0)	18–25	5–15 (8–30)
Mixed Style					
18. German-Style Ale					
a) German Style Kölsch/Köln-Style Kölsch	1.042–48 (10.5–12)	1.008–12 (2–3)	3.8–4.2 (4.8–5.2)	20–32	3–5 (6–10)
b) Düsseldorf-Style Altbier	1.044–48 (11.0–12.0)	1.008–14 (2–4)	3.6–4.0 (4.6–5.1)	25–48	11–19 (22–37)
19. German-Style Wheat Beer					
a) Berliner-Style Weisse	1.028–32 (7.0–8.0)	1.004–6 (1–2)	2.2–2.7 (2.8–3.4)	3–6	2–4 (4–8)
b) German-Style Weizen/Weissbier	1.046–56 (11.5–14.0)	1.008–16 (2–4)	3.9–4.4 (5.0–5.6)	10–15	3–9 (6–18)
c) German-Style Dunkelweizen	1.048–56 (12.0–14.0)	1.008–16 (2–4)	3.8–4.3 (4.8–5.5)	10–15	16–23 (32–45)
d) German-Style Weizenbock	1.066–80 (16.5–20.0)	1.016–28 (4–7)	5.5–7.5 (7.0–9.6)	10–15	5–30 (10–59)
20. Smoked Beer					
a) Bamberg-Style Rauchbier	1.048–52 (12.0–13.0)	1.012–16 (3–4)	3.4–3.8 (4.3–4.8)	20–30	10–20 (20–39)
b) Classic-Style Smoked Beer	refer to individual Classic Styles				
c) Other Smoked Beer	vary widely				
21. Fruit and Vegetable Beer					
a) Fruit and Vegetable Beer	1.030–110 (7.5–27.5)	1.006–30 (2–8)	2.0–9.5 (2.5–12.1)	5–70	5–50 (10–99)
b) Classic-Style Fruit Beer	refer to individual Classic Styles				
22. Herb and Spice Beer					
a) Herb and Spice Beer	1.030–110 (7.5–27.5)	1.006–30 (2–8)	2.0–9.5 (2.5–12.1)	5–70	5–50 (10–99)
b) Classic-Style Herb and Spice Beer	refer to individual Classic Styles				
23. Specialty Beer					
a) Specialty Beer	1.030–110 (7.5–27.5)	1.006–30 (2–8)	2.0–9.5 (2.5–12.1)	0–100	1–100 (2–197)
b) Classic-Style Specialty Beer	refer to individual Classic Styles				
24. California Common Beer					
a) California Common Beer	1.040–55 (10.0–13.8)	1.012–18 (3–5)	2.8–3.9 (3.6–5.0)	35–45	8–17 (16–33)
25. Traditional Mead and Braggot					
a) Sparkling Traditional Mead	1.050–100 (12.5–25.0)	n/a	3.9–8.6 (5.0–11.0)	n/a	n/a
b) Still Traditional Mead	1.090–140 (22.5–35.0)	n/a	8.6–11.8 (11.0–15.0)	n/a	n/a
c) Sparkling Braggot	1.050–100 (12.5–25.0)	n/a	3.9–8.6 (5.0–11.0)	n/a	n/a
d) Still Braggot	1.090–140 (22.5–35.0)	n/a	8.6–11.8 (11.0–15.0)	n/a	n/a
26. Fruit and Vegetable Mead					
a) Sparkling Melomel	1.050–90 (12.5–22.5)	n/a	3.9–8.6 (5.0–11.0)	n/a	n/a
b) Still Melomel	1.090–140 (22.5–35.0)	n/a	8.6–11.8 (11.0–15.0)	n/a	n/a
c) Sparkling Cyser	1.050–90 (12.5–22.5)	n/a	3.9–8.6 (5.0–11.0)	n/a	n/a
d) Still Cyser	1.090–140 (22.5–35.0)	n/a	8.6–11.8 (11.0–15.0)	n/a	n/a
e) Sparkling Pymment	1.050–90 (12.5–22.5)	n/a	3.9–8.6 (5.0–11.0)	n/a	n/a
f) Still Pymment	1.090–140 (22.5–35.0)	n/a	8.6–11.8 (11.0–15.0)	n/a	n/a
27. Herb and Spice Mead					
a) Sparkling Metheglin	1.050–90 (12.5–22.5)	n/a	3.9–8.6 (5.0–11.0)	n/a	n/a
b) Still Metheglin	1.090–140 (22.5–35.0)	n/a	8.6–11.8 (11.0–15.0)	n/a	n/a
c) Sparkling Hippocras	1.050–90 (12.5–22.5)	n/a	3.9–8.6 (5.0–11.0)	n/a	n/a
d) Still Hippocras	1.090–140 (22.5–35.0)	n/a	8.6–11.8 (11.0–15.0)	n/a	n/a
28. Cider					
a) Still Cider	1.045–53 (11.3–13.3)	n/a	5.5 (7.0)	n/a	n/a
b) Sparkling Cider	1.045–61 (11.3–15.3)	n/a	6.3 (8.0)	n/a	n/a
c) New England-Style Cider	1.061–105 (15.3–26.3)	n/a	6.3–11.0 (8.0–14.0)	n/a	n/a
d) Specialty Cider	1.045–105 (11.3–26.3)	n/a	4.6–11.0 (5.9–14.0)	n/a	n/a

PART V

Entry Form

Please read the instructions in PART II of the rules and regulations brochure

Section A: Brewer Information

1. Name _____
2. Additional Brewer(s) _____
3. Address _____
4. City _____ State/Province _____ Zip/Postal Code _____
5. Country _____ Phone (H) (_____) _____ (W) (_____) _____
6. E-mail _____
7. Are you a member of an AHA Registered Homebrew Club? ☐ Yes ☐ No
If "yes," what is the name? (Please spell out full name. Do not abbreviate.) _____
8. AHA Membership Number _____
9. New Member ☐ Yes (separate \$33 check enclosed) ☐ Non-Member
10. Entry Fees Enclosed. AHA members pay \$8 per entry : _____ no. of entries x \$8 = \$ _____ total
Non-members pay \$12 per entry: _____ no. of entries x \$12 = \$ _____ total
Canadian members use current exchange rate or 1.4 (i.e., \$8 x 1.4 or \$12 x 1.4).
11. This is the _____ time I have entered the AHA National Homebrew Competition

Section B: Entry Information

12. Category and Subcategory (Print full names) _____
13. Category (1-28) _____
14. Subcategory (a-h) _____
15. Name of Brew (optional) _____
16. For Mead and Cider (check one): ☐ Dry ☐ Medium ☐ Sweet
17. SPECIAL INGREDIENTS:

If you have entered in any of the following categories 3c, 20b, 20c 21, 22, 23, 25, 26, 27, 28c, 28d refer to section I of the Rules and Regulations for instructions on filling out this table. The judges will use this important information for evaluating entries in these categories. Leave this table blank if you have not entered the above categories.

Classic Style (if applicable) _____

Special Ingredient(s) _____

PART VI – SPONSORS

The companies below support homebrewing and homebrewers by donating resources to the AHA National Homebrew Competition. Many of these sponsors have been with us for several years. We are grateful for their support because their dedication is integral to the success of the world's largest homebrew competition. Should you have an opportunity to patronize these companies, we hope you'll do so.

AWARD SPONSORS:

Homebrew Club of the Year

Coopers Brewery, Adelaide, Australia

Cidermaker of the Year

Glass Mountain Studios, Bellingham, Wash.

Meadmaker of the Year

Madhava's Mountain Gold Honey, Lyons, Colo.

Homebrewer of the Year

Munton's p.l.c., Stowmarket, Suffolk, England

Ninkasi Award

Boston Beer Co., Boston, Mass.

CATEGORY AND AWARD SPONSORS:

1. Barley Wine

Edme Ltd., Mistley, Manningtree, England.

2. Belgian- and French-Style Ale

Manneken-Brussel Imports Inc., S.A. Bieres de Chimay, Austin, Texas.

3. Belgian-Style Lambic

New Belgium Brewing Co., Fort Collins, Colo.

4. Mild and Brown Ale

Premier Malt Products, Grosse Pointe, Mich.

5. English-Style Pale Ale

Wynkoop Brewing Co., Denver, Colo.

6. American-Style Ale

Northwestern Extract Co., Brookfield, Wis.

7. English-Style Bitter

Alternative Beverage, Charlotte, N.C.

8. Scottish-Style Ale

Yakima Brewing Co., Yakima, Wash.

9. Porter

Left Hand Brewing Co., Longmont, Colo.

10. English- and Scottish-Style Strong Ale

Wine & Hop Shop, Denver, Colo.

11. Stout

Alternative Garden Supply D/B/A Brew & Grow, Streamwood, Ill.

12. Bock

Washington Hop Commission, Yakima, Wash.

13. German-Style Dark Lager

Homebrew Headquarters, Dallas, Texas.

14. German-Style Light Lager

Briss Malting Co., Chilton, Wis.

15. Classic Pilsener

Red Ass Brewing, Fort Collins, Colo.

16. American Lager

Jacob Linenkugel's Brewing Co., Chippewa Falls, Wis.

17. Vienna/Märzen/Oktobfest

F.H. Steinbart, Portland, Ore.

18. German-Style Ale

H.C. Berger, Fort Collins, Colo.

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Tabernash Brewing Co., Denver, Colo.

20. Smoked Beer

Jim's Homebrew Supply, Spokane, Wash.

21. Fruit and Vegetable Beer

The Purple Foot, Milwaukee, Wis.

22. Herb and Spice Beer

Marin Brewing Co., Larkspur, Calif.

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Great Western Malting Co., Vancouver, Wash.

24. California Common Beer

Anchor Brewing Co., San Francisco, Calif.

25. Traditional Mead and Braggot

Bacchus & Barleycorn Ltd., Shawnee, Kan.

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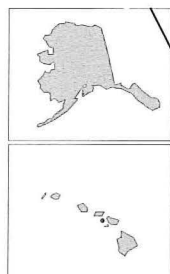
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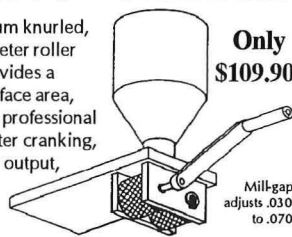
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King Kooker PK 11

Burners (from page 23) to lend assistance, offer advice, and assure that no one became dehydrated during our grueling testing session.

We tested each unit for performance, fuel consumption, overall stability, and ability to comfortably accommodate a keg-style brewpot. Our methodology is described below.

Performance and Fuel Consumption

For each burner, a full, 1 pound (.45 kilograms) propane cylinder was weighed to nearest one-tenth gram and attached to the burner. Since the small, 1 pound cylinders have a different fitting than the larger propane tanks for which these burners are intended, a special adapter was used. A 5-gallon (18.9 liter) stainless-steel stockpot was filled with 2 gallons (7.8 liters) of water at 52 to 54 degrees F (11 to 12 degrees C). The burner was lit and the flame optimized by adjusting the air shutter (available on all but one unit).



King Kooker PK 84

The burner was then turned up to maximum output to produce the greatest amount of heat, and the water was brought to a rolling boil. (Note: Because of their limited capacity, one-pound propane cylinders are not suitable for homebrewing. However, for testing purposes, they were easy to work with as they allowed us to easily and accurately measure fuel consumption.)

The water was stirred occasionally as it heated. The time required for the water to reach a rolling boil was measured. The fuel

tank was removed and weighed again to measure how much fuel had been consumed. The fuel consumed was divided by the elapsed time to arrive at a rate of fuel consumption.

Stability & Ability to Accommodate Keg-Style Brewpots

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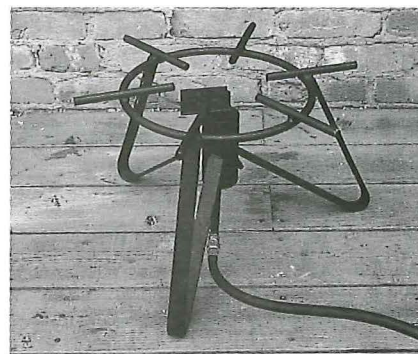
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fashioned from an empty, straight-sided, half-barrel (15.5 gallon/56.8 liter) stainless steel keg by cutting out the top. Because these are so commonly used, we evaluated their stability on each burner. We filled one of these converted kegs with 10 gallons (37.8 liters) of water and placed it on each burner. We shook the keg gently and noted whether the brewpot sat securely and whether the unit showed any wobble or other structural instability.

What the Numbers Mean (or Your Mileage May Vary)

I'd like to point out that the numbers produced by our tests are not particularly meaningful in themselves. Rather, they should be viewed as relative measures of performance and fuel consumption. This is the information that the tests were intended to provide.



King Kooker H/S PK 90

For one thing, the exact results of the boiling and fuel consumption tests would likely be different under different environmental conditions, or with the burners used in a manner more typical of a homebrewing session. For example, our tests were conducted at over 5000-foot elevation. At this elevation, water boils at less than 212 degrees F (100 degrees C). Also, by operating the burners at maximum capacity, we were likely using fuel in an inefficient manner.

Also, with several of the burners, it was obvious that the output of the burner was not being fully utilized. With our relatively small brewpot, a sizeable portion of the flame produced by some burners was not contacting the pot, but instead was rising inefficiently around the sides of the pot. Though we would have preferred to use a larger brewpot for our tests, we used the five gallon (18.9 liter) stockpot because it was the largest pot available to us that fit comfortably on all the units. It's reasonable to assume that under normal use, the rate of fuel consumption—especially with more powerful burners—would be significantly less than the rates that our tests produced.

With these factors in mind, for my own curiosity, and in hopes of confirming our

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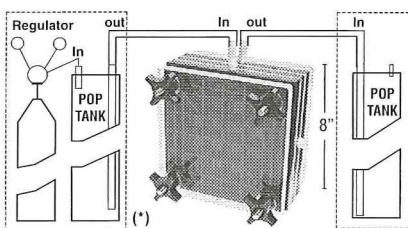
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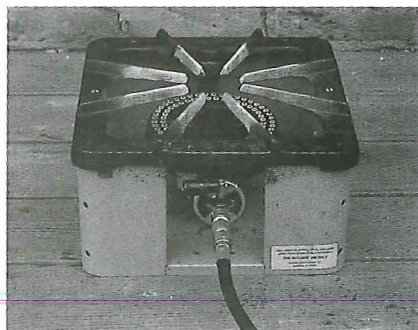
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original test results, I repeated the boiling test at a later date in conditions closer to a typical homebrewing situation (at least my typical homebrewing situation). On a breezy, 40 degrees F (4 degrees C) day, I set up the burners on my backyard patio and boiled two gallons (7.8 liters) of 47 degrees F (8 degrees C) water on each unit. Instead of using the five gallon (18.9 liter) stockpot, I used a wider, 7 gallon (26.5 liter) canning pot (not recommended for homebrewing because of weak handles). And instead of using the 1 pound (.45 kilogram) propane cylinders that we employed previously, I used a 20 pound (9 kilogram) propane tank like those commonly used with these units. I did not measure fuel consumption in this field test.

Not surprisingly, different environmental conditions produced somewhat different boiling times. However, most of the times I recorded were within 10 percent of the original results. More importantly, the relative performance of the burners remained identical in my field testing as in our original, more tightly controlled, road test.

The Burners

Cache Cooker SH-140L

Camp Chef

P.O. Box 4057

Logan, Utah 84323

(801) 752-3922

Maximum BTUs: 100,000

Suggested retail price: \$89.99

The 100,000 BTU Cache Cooker SH-140L is a high-pressure burner made by Camp Chef of Logan, Utah. Like two other high-pressure systems we evaluated, this unit features a four inch casting producing 24 flame points. The flame is controlled with an adjustable regulator. It has an air shutter to adjust the air/fuel mix, and a wind screen.

The Cache Cooker has a few features that are unique among the units we tested. It was the only unit that came with detachable leg extensions. The extensions are easy to install. You just slip them over the four permanent legs and secure them with the twist of a thumb screw. With the extensions

in place, the unit wobbled slightly when we placed our partially-full keg on it and shook it gently. But it was sturdy enough that we would not be concerned about using the extensions with a heavy brewpot. The extensions raised the elevation of the top of the burner from 11 to 22.5 inches.

Another nice feature found only on the Cache Cooker is a plastic grip, or hand wheel, which slides over the fitting that attaches the regulator-hose assembly to the fuel tank. This allows you to loosen and tighten the fitting by hand and change

propane tanks without a wrench. It would be nice if other manufacturers would include this simple, convenient feature on their burners.

The brewpot is supported on a sturdy metal strip shaped in a pattern somewhat resembling a four-leaf clover. Approximately 13 inches square, it easily supports pots of varied sizes, including our converted keg.

In our tests, the Cache Cooker performed third best in boiling time and ranked fourth in fuel consumption. It brought two gallons (7.8 liters) of water to a boil in seven minutes



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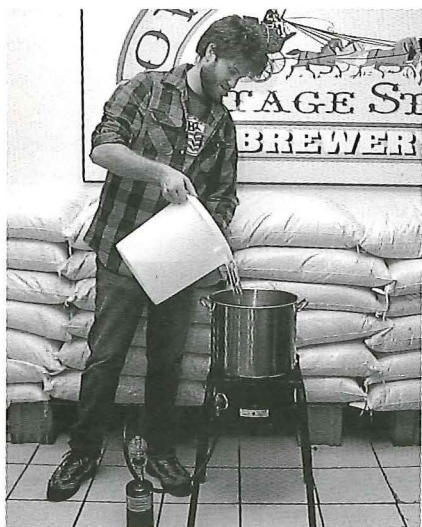


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Don Blake, president of the Tribe, lends a hand.

and consumed fuel at a rate of 4.3 pounds (1.95 kilograms) per hour at maximum output. When the flame is turned down low it's somewhat difficult to control and tends to go out suddenly during adjustment.

The documentation included with the Cache Cooker includes a four-page booklet explaining setup and operation, a flyer listing accessories, and several sheets related to outdoor cooking that made me hungry.

All in all, the Cache Cooker's combination of adequate performance, reasonable fuel consumption, and several unique and desirable features would make this burner a welcome addition to many homebrewing setups. It would not be the best choice for regulating mash temperatures (a low-pressure unit would be more desirable), but for other heating jobs, it's a solid performer.

FYRBREWER

Jantac Cellars

P.O. Box 266

Palatine, IL. 60078

(847) 397-0203

Maximum BTUs: 170,000

Suggested retail price: \$64.95

The FYRBREWER is sold by Jantac Cellars and manufactured by Metal Fusion, makers of the ubiquitous King Kooker line of burners. This high-pressure, 170,000 BTU unit features a sturdy tripod stand, wind screen, air shutter, and needle valve

for flame adjustment. Like the Cache Cooker and King Kooker 84 PK, it's equipped with a four inch casting producing 24 points of flame.

The brewpot sits atop six horizontal supports arms welded around a 12 inch diameter ring. The supports extend beyond the ring providing full support for pots up to 18 inches in diameter. The unit easily accommodates brewpots of varied sizes including a converted keg. The framework for the FYRBREWER is identical to that of the King Kooker 90 H/S PK.

The FYRBREWER finished fourth in our performance test, requiring 8.5 minutes to bring two gallons (7.8 liters) of water to a rolling boil. In my field test, with a larger brewpot, it performed slightly better. Though not an outstanding performer, it should be quite adequate for heating and boiling large quantities of liquid. It finished third in our fuel efficiency test, consuming propane at a rate of 4.1 pounds (1.86 kilograms) per hour, just slightly better than the Cache Cooker. At maximum output the unit is noisy, emitting an impressive roar.

I found this unit had greater flame control at low flame than the other two burners using the four inch casting (Cache Cooker and King Kooker 84PK). When the other units were turned down low, the flame would tend go out suddenly. Perhaps because of its higher BTU rating, or maybe because it uses a needle valve rather than an adjustable regulator, this unit could be turned down lower without going out. In other words, it had a greater range of flame adjustment.

The documentation included with this unit is the standard King Kooker 24-page booklet. This booklet contains setup and operation instructions for the range of King Kooker models, a list of replacement parts and accessories, and several pages of recipes (deep fried turkey, anyone?).

If you had to pick just one burner to provide heat for all your homebrewing tasks, the FYRBURNER would be a good choice. Its satisfactory, if not overwhelming performance is sufficient for heating large quantities of water or wort. Its ability to maintain a consistent, low flame means it could also be used to regulate mash temperature if a low-pressure burner was not available.

King Kooker 11 PK

Metal Fusion, Inc.

712 St. George Ave.

Jefferson, LA 70121

(504) 736-0201

Maximum BTUs: 55,000

Suggested retail price: \$87.84

Though it uses a high-pressure regulator, the King Kooker 11 PK has more in common with the Superb low-pressure burner than the other high-pressure burners we tested. Its large 11 inch casting, with over 200 points of flame, distributes heat over a wide area, reducing the likelihood of scorching. It has a wind screen and air shutter. The flame is adjusted with a brass control valve located in front of the air shutter.

The unit sits on a metal ring attached to the frame providing a secure foundation. The brewpot sits atop three support arms welded to a 16 inch diameter ring. Pots smaller than 15 inches will sit securely on the support arms inside the ring. Larger pots, like the humongous 18.5 inch pot I brew with, will sit comfortably atop the ring though the distance between casting and brewpot will increase.

Unfortunately, a straight-sided, 15.5 gallon (56.8 liters) keg-style brewpot will not sit comfortably on this unit. When placed on the burner, the rounded lip at the base of keg tends to slide around on the ring if not positioned carefully, thus tilting the keg. With some effort, it is possible to place the keg so it sits upright, but it's a less-than-optimal situation.

In the performance test, the 11 PK was the second-slowest unit to bring two gallons of water to a rolling boil, taking 12 minutes. The next fastest unit was three-and-one-half minutes faster. Not surprisingly, the 11 PK was quite miserly when it came to fuel consumption, burning propane at a rate of just 2.1 pounds (.95 kilograms) per hour. The burner with the next highest fuel consumption rate, the FRYBREWER, burned fuel at nearly twice the rate of the 11PK.

The 11 PK comes with an abbreviated version of the King Kooker Operating Instructions booklet. Instead of the 24-page booklet included with some other models, the 8-page booklet included with this unit

omits information about setup and operation of King Kooker models other than the 11 PK.

Because it takes a prohibitively long time to heat large quantities of water, the 11 PK is not the unit of choice if you are purchasing a single burner for all of your homebrewing tasks. However, if you are considering a second burner for mashing grains, where wide, even heat distribution is more important than powerful heat output, this burner should prove worthy. This unit would also be a good substitute for your kitchen stovetop if you are considering moving your small-scale, extract brewing operation outdoors.

King Kooker 84 PK

Metal Fusion, Inc.

712 St. George Ave.

Jefferson, LA 70121

(504) 736-0201

Maximum BTUs: 175,000

Suggested retail price: \$62.75

The 135,000 BTU King Kooker 84 PK is another high-pressure burner that uses a four inch casting with 24 points of flame. It also features an air shutter, wind screen and adjustable regulator for flame control. Like several of the other high-pressure units, the 84 PK is noisy when operating at high output. Like the Cache Cooker, low flame adjustment can be tricky.

The unit is supported by a metal ring attached to the frame, similar to the King Kooker 11 PK. Unfortunately, the 84 PK is also similar to 11 PK in its inability to comfortably support keg-type brewpots. Smaller brewpots sit securely atop three horizontal support arms within a 13 1/2" diameter ring. When we placed our converted keg on the unit, however, the lip at the base of the keg fit so snugly over the ring that when we lifted the keg, the cooker was attached to it. To remove the keg, it was necessary to place one foot on the base of the cooker while lifting up the keg.

Despite having only the third-highest BTU rating, the 84 PK was the top performer in our water boiling test, bringing two gallons to a rolling boil in just five minutes. This was over a minute faster than the second fastest unit, proving that BTU ratings

alone are not an accurate measure of performance. Stellar performance has its price, however, as this unit consumed propane at a rate of 6.6 pounds (2.99 kilograms) per hour, the second-hungriest of the six test units. The 84 PK comes with the standard 24-page King Kooker Operating Instructions booklet.

If stellar performance is your main criteria for selecting a burner, this unit will not disappoint you. If you intend to use a keg-style brewpot, however, another unit may be more practical. As with most high-pressure units, regulating mash temperatures is not this type of burner's strong suit. But if you are committed to a one-burner homebrewing setup, the 84 PK will get you by.

King Kooker 90 H/S PK

Metal Fusion, Inc.

712 St. George Ave.

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The 200,000 BTU, high-pressure King Kooker 90 H/S PK is unique among our test units in that it employs a jet pipe for heat delivery rather than a casting. Once the unit is lit, opening the adjustable regulator sends an impressive geyser of flame out the top of the jet tube. It is, by far, the noisiest unit we tested. Here is a conversation that could have taken place during testing of the King Kooker 90 H/S PK:

Tester #1: Wow! This sucker cranks out one helluva flame!

Tester #2: What?

Tester #1: I SAID, THIS SUCKER CRANKS OUT ONE HELLUVA FLAME!

Tester #2: WHAT?

Tester #1: NEVER MIND!!!


Tester #2: FINE THANKS, AND YOU?

Tester #1: WHAT?

One potential drawback with the jet system is that it delivers a large amount of heat to a relatively small area on the bottom of your brewpot, increasing the possibility of scorching. The flame can be dispersed over a larger area, however, by swinging a three-inch square plate into position over the top of the jet tube. When

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the flame contacts the bottom of the plate, it spreads out over a larger area on the bottom of the brewpot.

The 90 H/S PK has no wind screen, and in breezy conditions it can be difficult to maintain a consistent boil. The unit also lacks an air shutter to fine tune the air/fuel mixture. When the flame is turned down low, the color changes from blue to yellow and produces soot on the bottom of the pot.

The frame of the 90 H/S PK is identical to that of the FYRBREWER. It's quite sturdy and can easily accommodate brewpots of varied sizes including converted half-barrel kegs. The standard 24-page King Kooker Operating Instructions booklet is included with the unit.

At 200,000 BTUs, the 90 H/S PK has the highest BTU rating of the six units we tested. We were surprised that it finished second in our performance test bringing two gallons to a boil in six minutes and 15 seconds. This was one minute and fifteen seconds slower than the 84 PK. However, in my subsequent field test using a larger

brewpot, the 90 H/S PK was only 20 seconds behind the 84 PK.

It's no surprise that this unit was the least fuel-efficient of all the units, inhaling propane at a rate of 8.6 pounds (3.89 kilograms) per hour at maximum output. To be fair, operating this unit at maximum output with a small brewpot was quite inefficient because much of the flame produced by this unit did not contact the pot. I believe that similar performance results could have been achieved using much less fuel.

The King Kooker 90 H/S PK is the best-

performing unit we tested that will comfortably accommodate a keg-style brewpot. Though it tends to be a fuel-guzzler, you get a lot of bang for your buck. It's intended to quickly heat and boil large quantities of liquid, and excels in that capacity. If you can get by without a wind screen, and can deal with a little soot on your brewpot, this unit could be an integral part of your homebrewing system. A very desirable setup might include the 90 H/S PK in combination with a second burner for tasks involving more precise heat control.

Superb PC-100

Empire Comfort Systems, Inc.
918 Freeburg Avenue
Belleville, IL 62222

Maximum BTUs: 35,000

Suggested retail price: \$113

The low-pressure Superb PC-100, at 35,000 BTUs, has the lowest BTU rating of the six units we tested. Its six inch diameter casting, with 74 flame points, is enclosed in a sturdy metal box approximately 12 inches square. Since the casting is enclosed within the box, it needs no additional wind screen. The unit has an air shutter, and, like the King Kooker 11PK, has a control valve for flame adjustment located in front of the air shutter.

Although the unit appears to be intended for stockpot-sized pots, it easily accommodates pots of varied sizes. Our keg-style brewpot sits securely on the burner, though it overlaps the sides by several inches and hides the caster from view. When I put my oversized 18.5 inch brewpot on the unit, the fuel control valve became difficult to access.

In our performance test, the Superb PC-100 boiled two gallons of water in just under 14.5 minutes, the slowest of our six test units. As might be expected, it had the lowest rate of fuel consumption, using propane at a rate of 1.3 pounds (.59 kilograms) per hour. It comes with an abbreviated four page booklet (two pages of English, two pages of Spanish) containing assembly and operating instructions.

This unit is not designed to quickly heat large quantities of liquid and should not be purchased with that purpose in mind. It could be used to regulate mash temperatures, though you may want to initially heat your mash water on a more powerful burner to save time. A more practical use for this burner would be as an outdoor alternative to your kitchen stovetop for a small-scale, extract brewing setup.

Note: Superb also makes a high-pressure, 135,000 BTU burner (HP-100), but we did not receive the unit in time to include it in our evaluation.

Dan Rabin is a freelance writer from Boulder, Colorado, has been homebrewing for seven years and is active with the Hop Barley and the Alers homebrew club.

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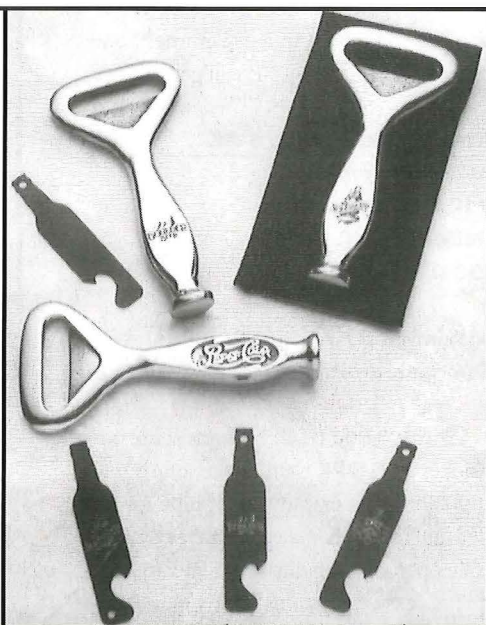
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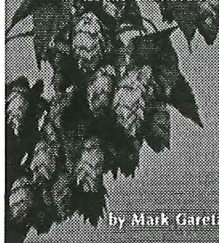
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Gaping Bunghole Stout

Tom Cannon
Fairfax, Virginia

Ingredients for 10 gallon batch (38 L)

- 14 lb pale malt (6.35 kg)
- 4 lb flaked barley (1.81 kg)
- 2 lb roasted barley (.91 kg)
- 3 oz Northdown hops (85 g)
- .5 oz East Kent Golding hops (14 g)
- Wyeast Irish Ale yeast 1084

- Original specific gravity: 1.038-1.040
- Final specific gravity: 1.014
- Boiling time: 90 minutes
- Primary fermentation: 6 days
- Secondary fermentation: 7 days

Brewer's Specifics

Mash one hour at 152 degrees F (67 degrees C), then sparge off. Add Northdown hops 30 minutes into the boil, East Kent Goldings at knockout. Chill wort to 72 degrees F (22 degrees C), aerate with oxygen. Ferment at 68 degrees F (20 degrees C). Rack into keg after primary fermentation, allow to sit a week before force-carbonating (2 volumes of CO₂). Hook up to nitrogen dispense system (mixed gas cylinder, regulator, flow restrictor beer faucet), serve at 30 psi.

"The body and maltiness are just right," says Cannon. "It only lacks that slight Guinness sour twang." The stout can be served under CO₂ alone, but "it tastes much thinner." Under the latter circumstances, Cannon advises increasing the mouthfeel by raising the original gravity slightly and mashing at a higher temperature.

Guinness (from page 27)

There is a germ of truth to such health claims. The yeast in unpasteurized Guinness is a valuable source of vitamins, and can also exert a mild laxative effect. For these reasons, a product called Invalid Stout was once dispensed to convalescents. An analysis appearing in Michael Lewis's book *Stout* (Brewer's Publications Classic Beer Styles Series) reveals that Guinness Extra Stout contains a significant amount of



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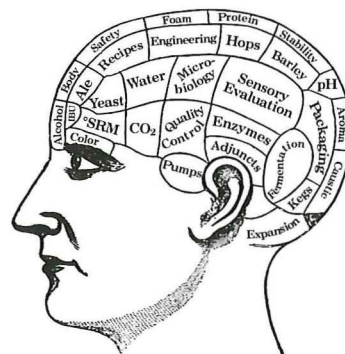
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Mac's Dry Stout

James McMillan
Brew-It-Yourself Center
Southgate, Michigan

Ingredients for 5 gallon batch (19 L)

- 7.5 lb pale 2-row malt (3.4 kg)
- 1 lb flaked barley (.45 kg)
- 20 oz roasted barley (566 g)
- 1.5 oz Northern Brewer hops (43 g)
- Wyeast Americal ale yeast 1056
or Irish ale yeast 1084

- Original specific gravity: 1.040
- Final specific gravity: 1.009
- Boiling time: 60-90 minutes
- Primary fermentation: 7 days
- Secondary fermentation: 7 days

Brewer's Specifics

Step infusion mash. Hold 30 minutes at 125 degrees F (52 degrees C), one hour at 150 degrees F (66 degrees C), mash out at 168 degrees F (76 degrees C). Before boil, save 1/2 gallon of wort and one cup of spent grain. Mix wort and grain in gallon jug, let sit 12 to 24 hours until a lactic fermentation develops.

Meanwhile, add hops to major portion of wort at beginning of boil. Ferment at 65 degrees F (18 degrees C) for one week of primary fermentation, one week of secondary fermentation.

After fermentation has begun, remove several ounces of fermenting wort and add to jug of sour mash. When primary fermentation is complete (for both portions), boil sour beer in a small pot and add contents to main fermentation vessel. Transfer finished beer to Cornelius keg, force-carbonate at 1 1/2 to 2 volumes. Pressurize at 25 to 35 psi using nitrogen dispense system. Before serving, allow to sit 5 to 6 days for nitrogen to dissolve in beer properly.

"People who have tried this beer are pretty well shocked at how closely it approaches Guinness," says McMillan. He admits that the nitrogen dispense equipment may be a little pricey for the casual stout brewer. Gas cylinder, regulator and Guinness tap, he estimates, cost \$250 to 275. Served under CO₂ alone, Mac's Dry Stout is perfectly drinkable, although "the texture is not quite as good."

the minerals potassium, magnesium and phosphorus, and the vitamins niacin and pantothenic acid. O'Brien in *The Stout Book* pegs unpasteurized stout as an excellent source of folic acid. A recent study cited in *The Washington Post* indicates that even tiny amounts of this nutrient can greatly reduce the risk of certain birth defects.

In today's alcohol-wary world, Guinness no longer claims that its stout is good for you. But old beliefs die hard. Guinness is considered an aphrodisiac in some African countries, and is marketed under the slogan "a baby in every bottle." In parts of Asia, it's customary to bathe newborn infants in stout.

Guinness was not only responsible for a new style of beer, but a new way of serving beer. Before 1964, Irish pubs served draft Guinness in an active state of fermentation, much like English cask ale. Protz describes a complicated serving system called "high cask and low cask." The publican would blend unfermented wort and yeast into some of the casks, sparking a new fermentation. These would be placed at the top of the stillage. By drawing a pint partly from these lively casks and partly from flatter casks stored below, the publican could ensure his customer a thick, creamy head.

The problem is that cask beer is a delicate product requiring special handling. In Britain, with its tied house system, the breweries that own the pubs can ensure that the staffs are properly trained. In Ireland, where the pubs are independent, monitoring the quality of the beer is a more difficult task. To achieve a more consistent product, Guinness phased out its wooden casks in favor of aluminum kegs containing filtered beer. To preserve the rich foam beloved by the Irish, however, the brewery pioneered the art of nitrogenization.

Nitrogen is a colorless, odorless, tasteless gas that makes up 78 percent of Earth's atmosphere. When dissolved in beer in the proper proportion with carbon dioxide, it produces a cascade of tiny bubbles whose smaller surface area renders them more stable than pure CO₂ suds. This is why you can trace a shamrock in the head of your Guinness that will linger to the bottom of your glass.

The draft Guinness we enjoy today is lightly carbonated, containing 2.2 grams per liter of dissolved CO₂ (less than half of what the brewery's Harp Lager contains). A little

nitrogen—the exact amount is a proprietary secret—is also forced into the beer between the brewhouse and the brite beer tank. Using a cartridge of mixed gas (a 75/25 blend of nitrogen and carbon dioxide that's come to be known as Guinness gas), the bartender pushes the beer through the tap lines at a pressure of 30 to 40 psi. This is about twice the pressure you'd use to dispense a normal beer. Before the stout reaches the faucet, it slams into a barrier called a restrictor plate. Greg Carr, national quality director for the Guinness Import Co., describes it as a stainless-steel disk "a little smaller and a little thinner than a dime," with five pinholes precision-drilled into it.

Nitrogen is a surly gas. It requires more pressure to force into beer, but once it's in solution, it's harder to knock out. However, the shock of being blasted through the restrictor plate knocks the nitrogen loose, producing the phenomenon known as the "theatre of dispense": a cloudy, coffee-colored chaos that slowly resolves into a black liquid and tan foam (a totality known as a "blonde in a black skirt"). The catch is that the gases must be in the right proportion. Too much CO₂ and the Guinness is too fizzy; too much nitrogen and the beer comes out flat. "The restrictor plate must be free from obstruction; otherwise you'll get large bubbles," warns Carr. The presentation is paramount. That's why Guinness Imports employs a team of 25 draft specialists who travel across the country training retailers and wholesalers in the fine art of the pour.

Guinness, in fact, has produced a video-cassette on how to pour the perfect pint. The server is urged to hold the glass at a 45-degree angle to the faucet, pull the handle to the fully open position and fill the glass three-quarters of the way up. The next step is probably the hardest for impatient American drinkers: allow the stout 1 to 2 minutes for the foam to settle. Finally, you top off the glass so the head rises just above the rim. The perfect head, or "Roman collar," measures between one-half and one inch.

Just as there is a right and wrong way to serve Guinness, there's also a protocol for consuming Guinness. The Irish drinker is said to leave exactly six rings of foam clinging to the inside of his glass, each ring corresponding to a good, hearty swallow.

(Interestingly, Arthur Seddon, master brewer for Bass, also has cited six as the ideal number of rings to leave in a pint of his own beer.) Americans, who generally face a dark beer with trepidation, tend to take smaller, more cautious sips and leave as many as 20 rings. On the other hand, Australians are the champion guzzlers, draining their glasses with a single gulp and leaving no rings.

No sooner had Guinness worked the bugs out of its nitro dispense system than it began experimenting with a take-home container. In 1968 researchers Sammy Hildebrand and Tony Carey patented a two-chamber can analogous to the keg. The patent was allowed to expire, possibly because liquid nitrogen—an essential component in the modern “widget” can—was not then available in a dispensable form.

In 1979, Guinness launched Bottle Draught Guinness, which came with a syringe-like device called an “initiator” attached to the six-pack holder. The initiator was used to draw up a portion of the beer and squirt it back into the receptacle with enough force to raise a head. Some drinkers were a bit apprehensive about using it, recalls O’Sullivan, and it never appeared outside Ireland. But what really drove it into obsolescence was a simpler, better designed package.

In 1986, Alan Forage and William J. Byrne took out U.S. patent no. 4,832,968 for draft Guinness in a can. Attached to the bottom of the container is a 2 1/2-by 2-inch plastic cartridge the company dubbed the “smoothifier.” Inside the capsule is a chamber accessible via a tiny (0.61 mm) pinhole. After the can is filled with stout and right before it’s sealed, two drops of liquid nitrogen are added to the beer. During pasteurization, the nitrogen expands rapidly, raising the pressure within the can to 25 psi. A small amount of beer and nitrogen—between 10 and 15 ml—is forced into the capsule. When the tab is punched in, the pressure is released. The compressed beer and gas, in the words of one Guinness executive, “cry freedom,” creating a mini-geyser that knocks the N/CO₂ out of solution.

Simple? Sure it is...it only required four years and five million pounds (about \$8 million at the current exchange rate) to perfect.

Pub Draught Guinness (the word “Pub” was later dropped) premiered in the British

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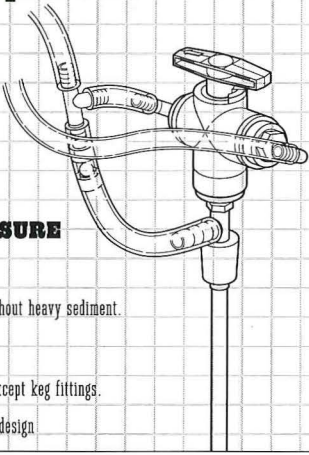
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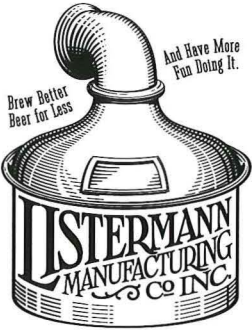
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Isles in 1989 and in the United States in 1992. Originally the company was reluctant to talk about the injection of liquid nitrogen; customers, it feared, would think Guinness was adulterating its stout with "rocket fuel." Today, however, widget cans have become so ubiquitous that this is no longer a concern. As of 1996, Guinness' smoothifier and similar designs by other breweries accounted for eight percent of the take-home market in the UK.

Critics of the widget argue that canned Guinness is creamier than the draft version and lacks its dryness and complexity. Protz, speaking at last year's Real Ale Festival in Chicago, stated, "Guinness, a big, dark, robust beer, can just about survive. But it [nitro cans] absolutely kills the flavor of an ESB or ale." He characterizes the widget can as the perfect container for couch potatoes who'd rather sit at home watching satellite TV than visit their local pubs.

But cans do have advantages. There are places, such as beaches, campsites and country clubs, where bottles are forbidden because of the danger of broken glass. Also, nitro cans have allowed Guinness to expand its territory within the U.S. Because sales are seasonal, peaking around St. Patrick's Day, many bar owners are reluctant to invest the money and effort in installing a special dispense system. Widget cans provide a reasonable facsimile at a lower storage cost.

Guinness continues to make waves felt beyond the beer industry. Recently, the wire services announced that Guinness and Grand Metropolitan PLC—the parent corporation of Burger King and Haagen-Dazs—had agreed to a \$36 billion merger. The new corporation, to be called "Diageo" (from the Latin word for "day" and the Greek word for "world"), will be the world's seventh largest food and beverage company. Shares of the new entity were to begin trading on December 17, 1997.

How will this affect brewing operations? "Not in this slightest," assures O'Sullivan. Don't expect to see a Diageo Stout, or a Diageo Book of World Records.

However, some longtime Guinness drinkers believe that the company has already begun dumbing down its celebrated stout. "Guinness today seems lighter, less roasty, and more astringent than it used to be," claims Protz. Certainly, stout today is brewed to a smaller gravity and alcoholic

content than in Victorian times (Eckhardt cites figures of 1.079 and 7.9 percent for a 1901 version of Guinness Extra Stout, compared to 1.052 and 5.5 percent for the modern product). However, O'Sullivan denies that there have been any major recipe changes within recent memory. He suggests that drinkers' perceptions may be influenced by the temperature at which the beer is served. Guinness Imports recommends chilling its draft stout to 39 to 45 degrees F (4 to 7 degrees C), which is about five degrees cooler than the suggested temperature six years ago. In Ireland, Guinness and Budweiser are now both served at the same temperature (3.5 degrees C or 38.3 degrees F), insists O'Sullivan. This change is consumer-driven, he adds.

There's enough flavor in a Guinness to survive the cold, notes O'Sullivan, but he admits you'll pick up subtler nuances in a warmer sample. That's why many Guinness aficionados are willing to wait patiently, rubbing their palms around their pint until it reaches cellar temperature. Guinness is no beer for chugging.

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LAST DROP

Jim Parker

Dumpster Diving for the Dixie Cup

Okay, so imagine, if you will, that you're working your shift at the Fairfield Inn in Houston, Texas, and you're on your way out back to drop something in the dumpster. As you approach the dumpster, you see a handful of guys gathered around, passing bottles wrapped in brown paper bags and scribbling notes on paper. You approach the group and ask just what in the wide world of sports is going on.

"We're judging beer," comes the matter-of-fact reply.

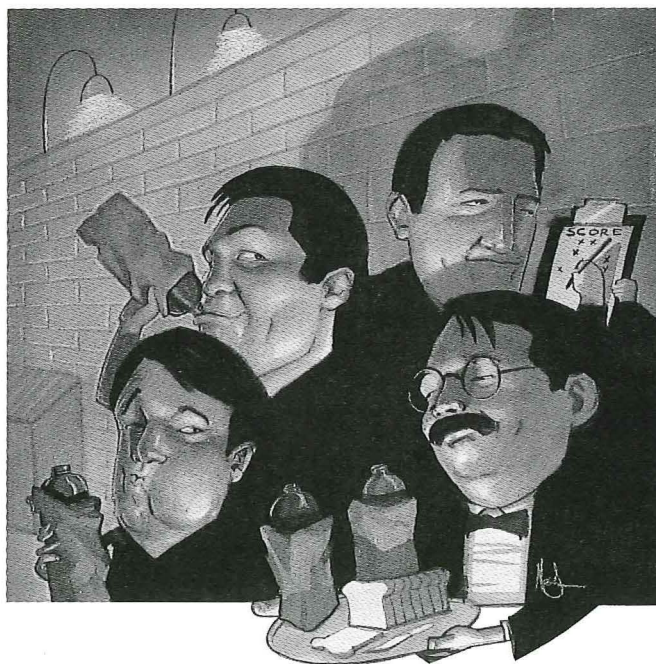
What do you do? You simply smile, nod politely and go about your business, safe in the knowledge that it's Dixie Cup time for Houston's own Foam Rangers, masters of good beer, bad taste and one of the country's largest homebrew events.

For 14 years, the Rangers have been holding their annual shindig, which combines a homebrew competition, "milli-conference" featuring talks by three brewing luminaries, a Fred Eckhardt tasting, pub crawls throughout Houston and a potluck.

This year, for the second year, the homebrew competition had an added attraction, a special wild-card category. This year's special category was malt liquor.

That's right. Malt liquor.

Competitors were challenged to produce their best home-brewed clones of such zymurgelological delights as Olde English 800,



King Cobra and St. Ides. The rules clearly stated that each entry should be packaged in no smaller than a 22-ounce bottle and said bottle was required to be wrapped in a plain brown paper bag.

But lest you think the Dixie Cup is nothing more than a joke, consider this: The competition drew 614 entries from 204 brewers and 33 homebrew clubs across the country. The "milli-conference" featured talks by George Fix on first-wort hopping, Dave Miller of Blackstone Brewery on improving mash efficiency and Rogue Brewing's John Maier on brewing big, hoppy beers.

Top honors went to Jim Harper of the Foam Rangers. Harper's victory was all the

more appropriate, considering his Mother Liquor Malt Liquor was the only entry bottled in a 40-ounce malt liquor bottle with the screw cap duct-taped back on. Mike Gans and Ronnie Phillips took the silver with their Big Mike's Malt Liquor. None of the entries was deemed worthy of third.

Perhaps inspired by Harper's malt liquor mastery, the Foam Rangers reclaimed the coveted Dixie Cup, awarded to the club that compiled the highest number of points for the competition.

And, since Grand Wazoo Steve Moore informs me that they haven't selected the wild-card category yet, as a public service, I feel duty-bound to offer a few suggestions:

- A *Backyard Beer* category, in which all entries must be brewed with one ingredient that is found growing in the brewers backyard. I did this once for a homebrew class I taught in California. We had fennel beers, dandelion beers and zucchini beers. The sky, er, I mean the ground, is the limit.

- A *Carnivore Beer* category, in which all entries must be brewed using a former living being. We've all heard of Sam Adams Cock Ale and a few folks are making oyster stouts. But how about a Spam Gueuze? Or a Tripe Trippel?

- Or, finally, a *Bitterest Beer* category, in which all entrants must hit triple digits in IBUs. The category could be judged only by those who had recently been through a divorce.

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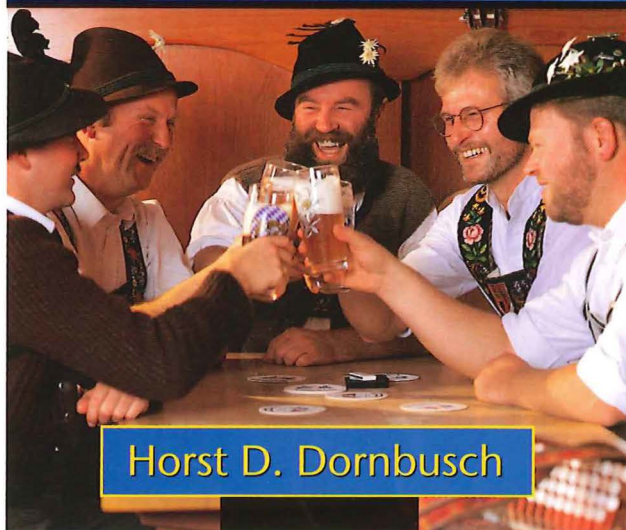
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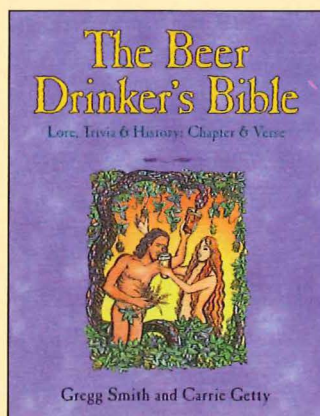
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Grant Wood Jim DeBoer Richard Dube Walter Scheurle David Grinnell Jim Koch Jose Ayala Jim Pericles
William Reed (not present)

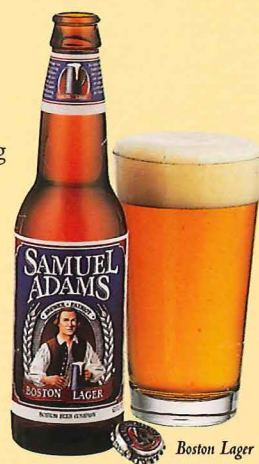
R&D.

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