Brew Your O

November 1996, Vol.2, No.11
Niche Publications Inc.

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THE HOW-TO HOMEBREW B

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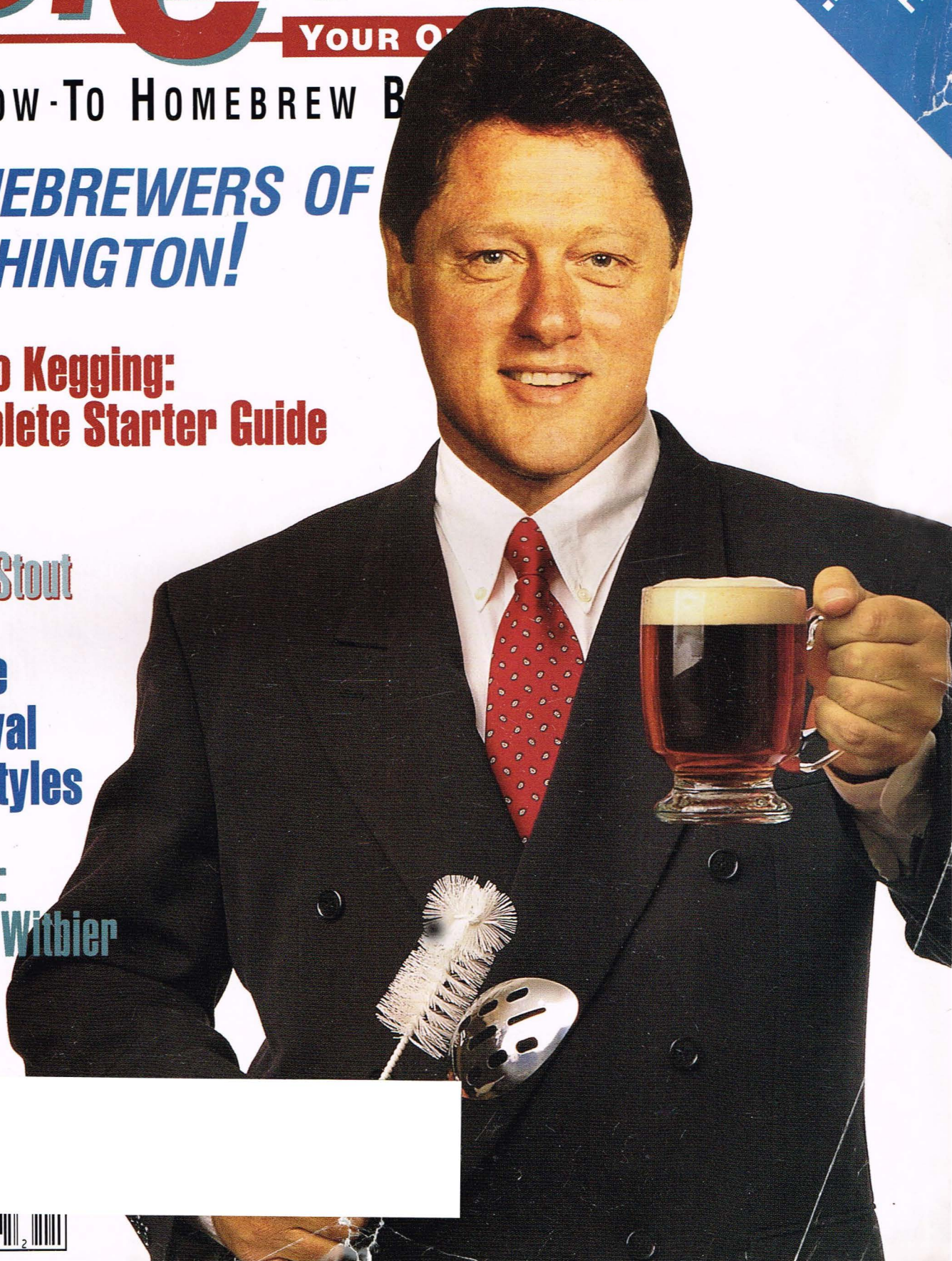

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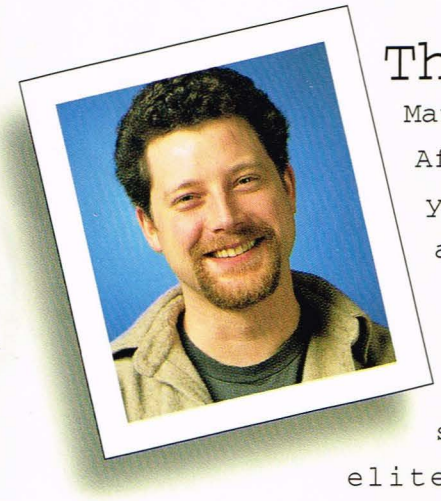
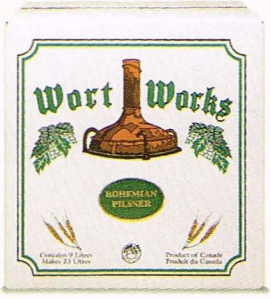


This is Sean. He's our beer guy.

Matter of fact, around Brew King, we call him "The Beer Guy". After all, he knows a thing or two about beer. And as you can see, he's pretty happy right now. Why? Because after months of self-imposed exile in Brew King's (windowless) brewing lab, Sean has emerged with Wort Works, an all-malt brewing kit of pure perfection - even by Sean's standards. You see, Sean belongs to that elite group of home brewing purists - the ones that scoff at most commercial brews and insist on choice natural ingredients for their own brewing masterpieces. With Wort Works, Sean would never cut corners. So what has Sean created? A totally unique, bag-in-a-box packaged product offering 9 litres (2 gallons) of concentrated wort made from 100% barley malt with naturally processed hops and filtered Canadian water, fully boiled in our 1000 gallon brew kettle. Sean even insisted on including a special dry hop package for extra aroma and flavour. And true to form, his instructions are comprehensive, even with information on the specific ingredients used. Sean's no dummy. He made Wort Works with his fellow homebrewers in mind, but he also made sure that its user friendly, no-boil method would be perfect for beginners too. Keep Sean happy. Make his Mom proud. Try Wort Works. The results will make you (and your friends) happy too.



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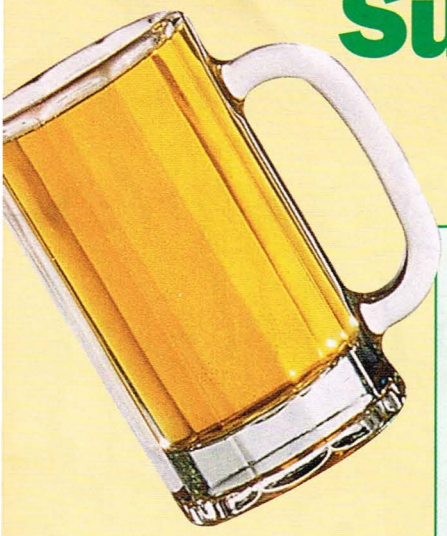

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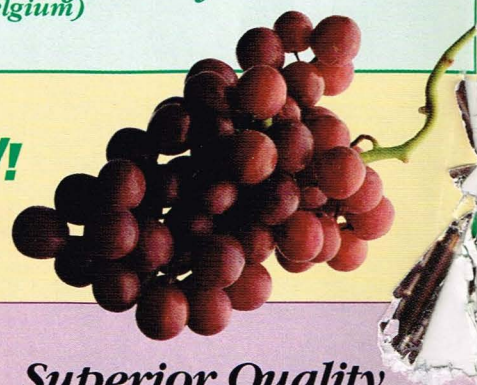

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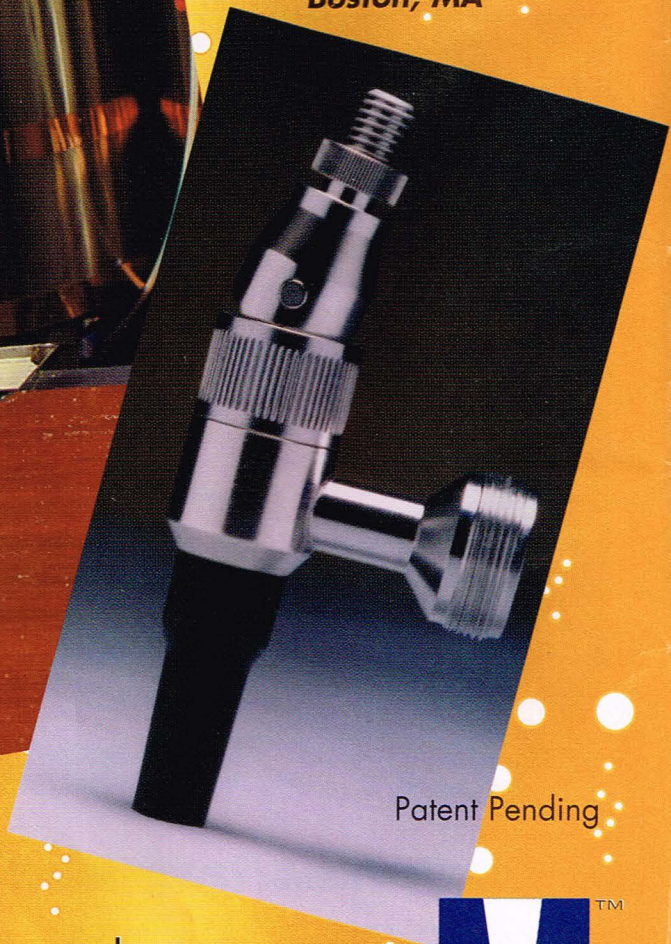

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Cover photo: Todd Hammond

It's Party Time

During election season lots of people like to talk about having real choices. I think it's about time somebody stopped talking and did something about it. That's why I'm announcing the formation of the National Homebrewers Party, the party where something's always fermenting.

We're in favor of back to basics, people first, the American family, make love not war and, most important, two carboys in every garage. You think I'm kidding, but it's about time we put a homebrewer in the White House. Under the new National Homebrewers (Natty Brew to insiders) administration, there will be a few changes.

National Decoction Day, celebrating our brewing forefathers, will be a federal holiday. Banks and schools will be required to close. History classes will review great brewers of the past. People will celebrate with picnics, barbecues, and traditional lagers.

Brewlight Savings Time: Every Friday clocks will be set forward two hours, providing extra daylight for outdoor brewers who get started after work. The clock change will take place at 10 a.m. so nobody has to get up too early.

Cultural Exchanges: American homebrewers will be sent to the Czech Republic, Germany, Belgium, England, and other outposts to foster understanding among beer drinkers worldwide. The government picks up the tab.

Tuition tax credits for all brewing classes. And while we're on the subject of taxes, homebrewing supplies will be considered grocery items and will not be subjected to sales tax.

Another tax item: the Bad Batch Deduction. Taxpayers will be allowed to deduct 100 percent of the value of any beer that goes bad and must be dumped.

Establishment of a national homebrew hotline. Just dial 111 and the operator will ask, "Is this an emergency or a technical call?" You answer, "Emergency. My bowling ball fell in the fermenter, and I had already pitched the yeast!" And on a similar topic, homebrew shops will be required to provide emergency delivery for those unhappy occasions when, for instance, you finish boiling the wort and discover you don't have any yeast.

Malt Stamps. To allow financially strapped homebrewers to purchase malt extract with government coupons.

Refrigerator Rehabilitation Project: Also known as the Universal Lagering Initiative. Local utilities will be required to rebuild old refrigerators and outfit them for use as lagering and dispensing units. They will be made available, free of charge, to all utility customers. And utility workers will deliver them to your door.

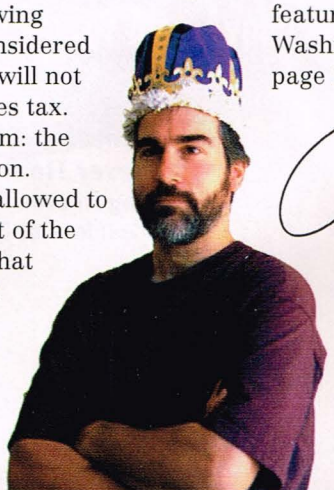
Waiting Room Ordinance. Doctors will not be allowed to keep busy patients waiting more than 10 minutes. Okay, this has nothing to do with brewing, but somebody's got to take action.

Finally, all brewpubs will be required to have at least one rotating tap, and the beer must change at least once a month. Is that too much to ask?

Since the campaign is starting late, we don't expect to sweep to victory on a write-in vote this year. But if we lay the groundwork now, in four years we'll have government matching funds and a national platform. Then, who knows?

In the meantime, check out our feature on real homebrewers in Washington. The story begins on page 26.

Craig Bystrynski



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Paging Dr. Homebrew

Dr. Craig Charles
Infectious Diseases Specialist
Winston-Salem, N.C.

Dr. Craig Charles examines his latest brewing effort. "I have a special interest in the life and metabolism of yeast," jokes the disease specialist. "My claim to fame: I've never had a batch of beer ruined by bacterial contamination."

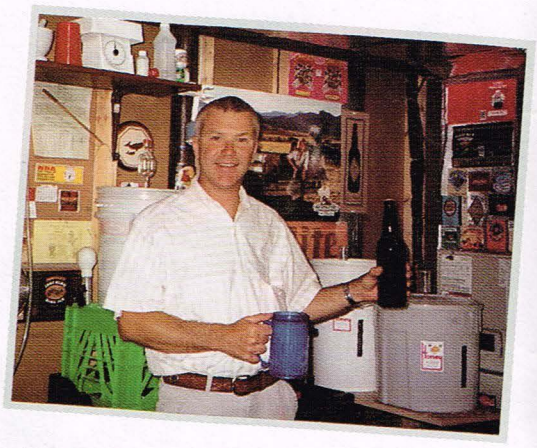
Richard Earling
Doctor of Chiropractic
Hanover, Pa.

My decision to try my hand at homebrewing was a result of three main influences: 1) A longtime love of English and Irish beers and ales, and other crafted brews. Unfortunately, as we know, the retail prices of these are forever inflating. 2) A good friend, Charlie McClintock, whose award-winning wines are light-years above and beyond anything I could brew. 3) The long, cold winter of '96 (how much could we ski, anyway?).

Put these three factors together and you get the birth of Red Rodent Brews. It was named after one particular back-yard pest with an attitude. Because gourmet cooking is a passion of mine and I took chemistry in college (many moons ago), I figured this beer stuff was going to be easy, right?!

Well, how about lifting a six-gallon fermenter full of wort to a higher level and ending up on my back, pinned down by now four gallons of wort on my chest. Major mess! We've learned a lot since that early batch.

One of the better extract experiments was a coco-java stout including raspberry juice, coriander, coffee, dark spraymalt, and dark extract.

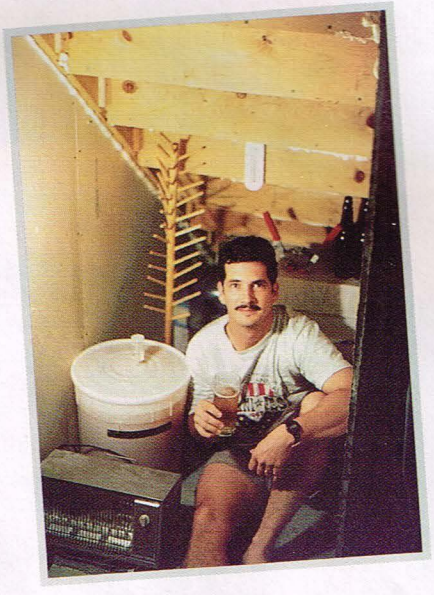


Richard Earling loves practicing chiropractic and brewing.

Richard Loui
Behavioral Psychiatrist
Orfordville, Wis.

My specialty is behavioral psychiatry. Although you won't find me in surgery with the BYO shirt on, you may find me wearing it around the ward. Unfortunately, it will have to be under my dress shirt.

One of my funniest experiences dates back to when I first started brewing beer. About a week after I had bottled a batch of beer, my wife canned some vegetables. If you know anything about canning vegetables, you know that as the jars seal they make a popping sound. Well, I listened to this popping sound one evening while going over some paperwork. I counted the pops. When my wife arrived home, I told her I had counted 21 pops. She said that wasn't possible because she had canned only seven jars. When I checked on the jars, to my dismay I found it was my beer bottles that had been popping, not the pickles.



Dr. Richard Loui specializes in behavioral psychiatry and beer.

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Kings get all the credit. First there was the Bohemian brewery that called its lager the *"Beer of Kings."* Now the biggest brewer claims its lager, which has a similar name, is the *"King of beers."* Both brewers would have been wise to study their history. They would find that there is a good woman behind every great beer. Women, not men, have brewed beer throughout most of recorded history. Beer queens have reigned from the Egyptian era, when they were served only the finest beers through golden straws, to medieval England and Elizabeth I, who established a connoisseurship for beer that her subjects quickly followed, to Catherine the Great, Queen of all the Russias. For shipping to Russia, brewers had to make their beer powerful, with lots of malt and hops. So great was Catherine's taste for the majestic stout that Imperial Russia became England's biggest export customer. The beer was titled, Imperial Stout.

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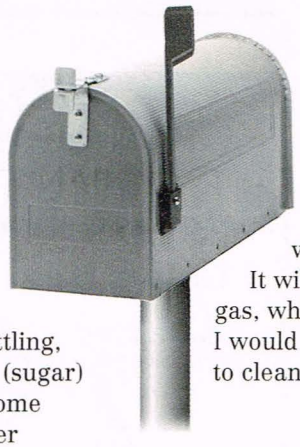

Beer Ice Cubes

Dear Brew Your Own,

I would like to share a good idea that will keep your beer cold on a hot summer day.

Just around the time of bottling, before you have added primer (sugar) to the fermentive wort, pour some wort in an ice tray to make beer cubes. Then place the ice tray of wort in a plastic bag to avoid freezer burn. Label the tray with the name of the beer.

On a hot summer day a glass of beer warms up fast. Crack out a beer cube from the freezer — the same kind as the beer you poured into the glass. Drop the cube in the glass of beer.

Sue Glover
Richfield, Minn.

The Right Thermostat

Dear BYO,

The article The Key to Better Lager: Cornelius Kegs! (April '96 BYO) needs some clarification, specifically the thermostat project. The thermostat called for cannot be a typical household furnace thermostat. Furnace thermostats work (allow electricity to flow) when the temperature drops. This is the opposite of what is required for this project.

Although many furnace thermostats can be rewired to work for this application, the easiest solution would be to use a thermostat from a cooling device such as an air conditioner. Also, household thermostats usually have a set lower limit of 55° F, which is a little on the high end of the lagering scale.

Alan Palmer
Wabash, Ind.

Safe Cleaning

Dear BYO,

I enjoyed your article about cleaning bottles (The Great Bottle Cleaning Shootout, July '96 BYO) except for one small detail. At the end of the article, there was a suggestion to use sodium hydroxide to clean stainless steel.

While I am positive that this works very well, sodium hydroxide (caustic soda) doesn't mix well with stainless steel. It will produce hydrogen gas, which is slightly explosive. I would advise against using it to clean stainless steel.

Michael R. Costello
Richmond, Va.

Please rest assured, sodium hydroxide (caustic soda) does not chemically react with stainless steel. In fact almost every commercial brewery and food manufacturing facility in the nation uses it to clean stainless-steel vessels and lines because of its compatibility. If caustic soda is applied to aluminum *pots, hydrogen gas is given off and is explosive. Caustic soda also pits aluminum and makes cleaning more difficult.*

Dear BYO,

I've lost my issue with the article on the pros and cons of various cleaners. I want to use trisodium phosphate to clean my stainless-steel draft tanks, but I don't know how much to use or how long to soak it.

Doug Brown
Memphis, Tenn.

Use two tablespoons of TSP per gallon of hot water. Put about one gallon in a keg, seal it, and gently shake or roll the keg. Use elbow grease after you shake and roll it. Use rubber gloves and wear goggles because TSP will irritate skin and hurt eyes.

In Search of Yeast

Dear BYO,

I'm in search of Paulaner's hefe-weizen yeast strain and/or Widmer Brothers hefe-weizen yeast strain, or something similar. Any idea where I may be able to find it?

Greg Hammermaster
Portland, Ore.

Any of a number of Bavarian hefe-weizen yeasts are sold by yeast suppliers. Ask your homebrew retailer about them. Widmer Brothers in Portland, Ore., uses an alt yeast for its hefe-weizen.

Underpitched Yeast

In Help Me, Mr. Wizard (June '96 BYO) you suggested that a great majority of homebrewers and microbrewers are underpitching their yeast.

I didn't know what to think, but after tests I completely agree.

Of course the final taste and quality results are yet to come, but my start-up times were cut in half and the vigor of fermentation was noticeable.

The other information concerning propagation techniques was also very helpful and dovetailed nicely with Fermenting with Your Vacuum Cleaner (June '96).

Steve Darnell
Ypsilanti, Mich.

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CIRCLE 11 ON READER SERVICE CARD

Toast Winter with Cranberry Beer

by Scott R. Russell

If the pumpkin is the symbolic vegetable of fall holidays, to me winter holidays are best represented by the cranberry.

These small, hard, sour, tart berries grow principally in the Northeast in this country, in swampy lowland areas called bogs. They are harvested with scoops that look like steam-shovel buckets with long rake fingers. More important, their flavor is very intense, making a little go a long way. To me, no winter holiday meal (from Thanksgiving to Valentine's Day) is complete without cranberry sauce, cranberry juice, cranberry nut bread...and why not cranberry beer?

My first experiment in brewing with cranberries was a pseudo-lambic. I had made up a batch of basic light wheat beer and soured it with a Brettanomyces yeast culture. I had a bunch of leftover black cherries, about three pounds, so I racked half of my pseudo-lambic onto them in a three-gallon carboy. But what to do with the other 2.5 gallons? Well, we just

Cranberry Cream Ale
(5 gallons, extract with specialty grains and fruit)

Ingredients:

- 0.5 lb. cara-pils (dextrin malt)
- 0.5 lb. light crystal malt, about 20° Lovibond
- 5 lbs. extra light dry malt extract
- 1 lb. rice syrup (or 0.75 lb. rice syrup solids)
- 1 oz. Liberty hop pellets, for 45 min.
- 1 oz. Cascade pellets, for 15 min.
- 7 g. dry ale yeast
- 7 g. dry lager yeast
- 4 lbs. fresh, whole cranberries
- 7/8 cup dextrose for priming

Step by Step:

In 2 gals. of cold water, steep cara-pils and light crystal malt. Raise temperature slowly to 170° F, then remove grains. Add to kettle dry malt extract and rice syrup (or rice syrup solids). Bring to a boil. Add Liberty hops and boil 30 minutes. Add Cascade hops and boil 15 minutes. Remove from heat, chill, and add to primary fermenter with enough pre-boiled cold water to make up 5.25 gals.

At 75° F, pitch a slurry of neutral ale yeast and lager yeast. (Alternatively, pitch a 7-gram packet of dry ale yeast and a 7-gram packet of dry lager yeast. If you have two three-gallon fermenters, you may ferment this as two separate batches, one as an ale, one as a lager, recombining them in the secondary.) Ferment on the cooler side of ale temperatures (60° to 65° F).

After initial fermentation has slowed down, rack into a secondary onto fresh whole cranberries (freeze them for a week, microwave them for three minutes to thaw and, if necessary, bruise them to break skins before placing them in the fermenter). Some new fermentation will probably begin, so you may find you need to use a blow-off setup for a day or so. Condition at fermentation temperature for about two weeks, then rack into a third vessel to allow better clearing for a week or so. Bottle, priming with dextrose. Bottle condition three weeks and serve chilled.

Notes and Alternatives:

All-grain brewers: This is a standard light, golden ale recipe, somewhere in the neighborhood of 7 or 8 lbs. 6-row brewers' malt with the addition as above of 0.5 lb. cara-pils and 0.5 lb. light crystal. Keep it light.

Cranberries: If you really get stuck and can't find cranberries, *do not* use a bottled cranberry juice cocktail or similar juice as a substitute. Most of them are blends of cranberry, apple, and white grape juice and will not produce the desired tartness. Pure (preferably organic) cranberry juice may be used in a pinch, but it is almost as hard to find sometimes as the berries themselves. Some of the wine-making trade suppliers sell a cranberry flavoring essence. Ask your homebrew supply store if it carries an essence or can find one. I have used one of them and was pleased with the results, although the fresh fruit will always be a better choice, to my mind.

Yeast: As noted above, there are really three possibilities. I prefer to ferment this as two separate small batches, and generally I use Wyeast 1056 in one and Wyeast 2035 in the other. I have also done this with Edme (dry) ale yeast and Yeast Labs European Lager (dry) yeast with good results. If you cannot do it as two batches, combine the yeasts in one fermenter, or use one or the other. Especially if you are going to add a strong-flavored fruit, the yeast profile is less important than it would be for the beer on its own.

Fining: If you decide that the fruit treatment described above is not sanitary enough for you and you decide to pasteurize the fruit, be careful not to boil it because cranberries contain pectin and will turn your beer hazy given the opportunity. But if this happens, you can certainly use whatever finings you would normally use in the secondary.

happened to have two pounds of fresh cranberries and a small jar of organic cranberry juice in the fridge. In they went. The result was wild. Talk about sour! Not only the bacterial sourness of the lambic but also the intense tartness of the berries.

It was a bit too much for most of my family (who, I must say, will usually try most anything I make). I liked it, and it did get a bit less sour as it aged. But I knew that if I were going to create something to share for the next holiday season, it would have to be less intense.

So I thought hard, searching for a basic beer recipe that would stand up to cranberries. Something with some sweetness but also some crisp, hoppy character. Something light in color and body because I wanted the beer to take on a reddish hue and be easy to drink. I decided to try a cream ale, one of my favorite light, summer brews.

My standard cream ale recipe is golden, crisp, thirst quenching, a bit sweet (from cara-pils malt and light crystal), and with the signature bitter and floral character of Cascade and Liberty hops. It seemed to me that the cranberries' sourness would be in perfect balance, and I was right! Unfortunately, the second time I tried to brew this was during a bad drought year. I was reduced to using a frozen juice concentrate instead of real berries (absolutely unavailable). Although it wasn't bad, it wasn't the same. Moral: Be sure of your cranberry supply before you plan to brew this!

Recently we have begun growing lingonberries, a Scandinavian relative of the cranberry, in the hope that in a couple of years we won't need to depend on commercial cranberry growers. In fact lingonberries' flavor is even more intense, and I made a small batch of Lingonberry Mead (which is still aging as we go to press but seemed quite interesting at bottling!).

Cranberry Cream Ale is an easy beer to brew and definitely not ordinary. I follow an allegedly traditional practice of blending ale and lager yeast, but this is not strictly necessary if you don't have two small fermenters at your disposal. So toast the winter holidays with a glass.

Reader Recipes

Columbus Red Ale
(five gallons, all-grain)

Recently I've gone utterly nuts over a new hop called Columbus. This batch was intended to push the limits of the hop's envelope, but the result was a beer popular with beer geeks and "civilians" alike.

If you do single-temperature infusions more often than I do, you can forget the six-row malt and add another pound of two-row. The toasted malt should be allowed to age for a couple of weeks between toasting and brewing. I used 10 percent alpha-acid hops from the '94 harvest. Those from the '95 harvest seem to have a much higher alpha-acid content. So beware.

Martin Lodahl
Auburn, Calif.

Ingredients:

- 5 lbs. Great Western 2-row pale malt
- 2 lbs. Great Western 6-row pale malt
- 1 lb. Great Western 2-row pale malt, toasted at 300° F for one hour
- 1 lb. Briess crystal malt, 80° Lovibond
- 6 oz. flaked wheat
- 4 oz. Briess roast barley
- 2.5 oz. Columbus hops (10% alpha acid), 0.75 oz. for 60 min., 0.75 oz. at knockout, 1 oz. dry hopped in the keg.
- Wyeast 1968 yeast

Step by Step:

Heat 4 gals. of water to 170° F. Place 3 gals. in the mash tun and hold 1 gal. in reserve. Add the grist to the mash tun, stirring constantly. Make sure all the grain is wet and there are no "dust balls."

Check the temperature. Add water from the reserve stock, stirring the mash well until the temperature is 155° F.

Let it rest for 90 minutes. During the rest, heat to 170° F 5 gals. of water with a pH of 5.3 to 5.7. Sparge with 170° F. Boil 30 minutes. Add 0.75 oz. hops and boil 60 minutes. Add 0.75 oz. hops and turn off heat.

After the yeast has swelled, pitch the contents into about 250 ml of 1.040 gravity unhopped (or lightly hopped) pale wort. After the foamy kraeusen falls, I pitch that into two liters of the same. Brew when the kraeusen has fallen on that. Pitch immediately after chilling the wort. Use a long, single-stage fermentation, letting it sit two to four weeks at 65° to 70° F. Rack to settle for a week at the same temperature before kegging. Dry hop with 1 oz. of hops in the settling vessel (two weeks works better than one) or in the keg (use a hop bag to avoid clogging poppet valves).

OG = 1.056
FG = 1.016

Bruno's Medium-bodied European Cream Ale
(five gallons, extract)

A friend and I have been brewing for a little more than a year. This basic recipe just comes from trial and error, trying to find the best ingredients for the best brew. Use your favorite hops and yeast.

Greg Bruno
Hermitage, Pa.

Ingredients:

- 3.3 lbs. light malt extract
- 2 lbs. spray-dried malt extract
- 1/3 oz. Irish moss
- 1 oz. bittering hops, for 15 min.
- 5 oz. priming sugar
- 1 yeast packet

Step by Step:

Bring 2 gals. of water (bottled spring water for better taste) to a boil. Remove from heat and pour in malt extract. Add spray-dried malt. Bring wort to a boil again. Boil for 35 minutes. Add Irish moss and the bittering hops of your choice. Boil for 15 min.

Pour wort into fermenter and add 3 gals. of cold water. Let cool to 70° to 75° F. Add yeast. When fermentation is complete, about three to seven days, add priming sugar to 1 pint of beer and place in a pan. Heat to dissolve sugar. Transfer beer to bottling bucket and add beer-priming sugar mixture. Stir. You're ready to bottle. Let bottled beer sit in a dark place for 30 days. Beer will be carbonated in 10 to 15 days. ■

OG = 1.039 to 1.044
FG = 1.005 to 1.010

When a Good Keg Goes Bad

Mr. Wizard

I've kegged some very nice brown ale that I brewed, only to have the keg lose pressure except for a little dribble. I opened it up, checked the seal, and re-primed it, thinking that would make it better again only to have the same occurrence. Would it be illogical for me to pour the beer back into my bottling container, re-prime, and then bottle it? I'm asking this because it has happened to a keg of bitter that I'd hate to have to use to fertilize my compost pile.

Also, I'm close enough to the eastern seaboard that I could obtain some sorghum grain, which I can malt myself; any suggestions as to a recipe that I could use it in?

Bob Vance
Upper Marlboro, Md.

Greetings, Marlboro man! Sounds like you've got a leaky keg on your hands. I want to address some common pitfalls of kegging before directly answering your question.

When using a soda keg for keg conditioning, it is very important to apply a top pressure of carbon dioxide from a bottled source to initially seal the keg. If you don't use this practice, the keg might never seal. Instead, it will slowly vent the products of conditioning to the atmosphere. This happens if the keg lid is not firmly smashed to the top of the keg with gas pressure to get it to seal. Because CO_2 is produced slowly during conditioning, the keg may never develop sufficient pressure to seal the lid. The other common pitfall with soda kegs is a loose lid that never really seals, regardless of the pressure. Obviously a leaky keg will always let your beer go flat and should be fixed.

This advice is a little too late for your current problem. However, if I were in your boots (you do still wear boots, don't you?), I would artificially carbonate this particular batch and get on with it. The alternative, as you suggested, is to re-prime the beer and bottle or keg it. The problem with that method is that you probably need to add more yeast. This may not be the best thing for this beer's flavor profile; after all you've already primed it twice, and this would be the third plus yeast! That's a little too much post-fermentation toying for this homebrewer.

Your next question is about using sorghum for brewing. Personally, I would rather use other adjunct materials, such as rice, corn, rye, or unmalted barley. But if you have an itch to drive over to Maryland's beautiful eastern shore and harvest sorghum, then have at it! Sorghum can be boiled like other unmalted adjuncts, such as rice and corn, and simply added to the mash. Sorghum can also be malted and used to replace barley.

Many native African beers use sorghum, because it is an indigenous cereal grain. In fact many African nations cannot successfully grow barley and do not want to import it, so these nations brew sorghum beer. One of the major disadvantages to sorghum in brewing is its high content of very bitter polyphenols that tend to produce rather awful tasting brews. These compounds are concentrated in the outer coat of the grain and can be removed to improve the sensory qualities of sorghum beers. A more common approach is the use of specially bred, low-polyphenol sorghum varieties that produce beers with much better sensory properties. If you use any old sorghum, you may end up with some pretty harsh beer.

If you're still keen on using this stuff, then the next step is brewing with it. If you malt the sorghum, it will contain enzymes and you can substitute it for barley malt. Depending on your drying method, you can have anything from pale to dark sorghum malt and blend these various colors as you would barley malts.

Mr. Wizard

I am just beginning the homebrew experience and do not understand what sparging is, what it is for, or what the layman equivalent is for sparge. Would you please explain?

Gary A. Lithgow
Placerville, Calif.

Sparging is a technique normally associated with all-grain brewing but is also employed when specialty malts are used with extract brews.

Essentially, sparging is synonymous with rinsing. During mashing the starch within the malt kernel is converted to fermentable sugars and dextrins, also known as "extract." Some extract diffuses out of the malt particles into the mash water, producing wort. A good portion of the wort is easily drained from the grain bed during wort collection, but a fair bit of extract produced during mashing is left inside of the grain particle. To recover this extract you must rinse the grain. This is when sparging comes into play. Hot sparge water serves as a carrier for the extract and allows the brewer to get the most from his malt.

Although sparging is required to maximize yield, excessive sparging or using water that is too hot, above 170° F, can leach undesirable materials

from the grain bed.

Most of these undesirable compounds are tannins or polyphenols that are contained in the malt husk. The extraction of husk tannins occurs as the wort pH rises above about 5.8, which normally happens toward the later stages of wort collection, when the wort gravity falls.

Most commercial breweries do not collect wort with a specific gravity less than 1.008 or 2° Plato because of the low quality of these "last runnings" from the grain bed.

Another factor affecting wort pH is the chemical makeup of the sparge water. If sparge water contains a lot of bicarbonate, the pH of the wort tends to rise much more rapidly than waters that contain little or no bicarbonate. For this reason it is common to add calcium or acids, such as lactic or phosphoric, to water high in bicarbonate. Of course some beers, specifically dark beers such as stout and dunkel lagers, are best made with bicarbonate-rich waters because the malt composition tends to be too acidic without the acid-neutralizing bicarbonate ion.

To conclude this whole mess, sparging is simply rinsing out the extract produced during mashing. Like most steps in brewing, sparging has a profound effect on beer flavor, and care given to the sparging process will show up in the flavor profile of the finished beer.

Mr. Wizard

I have a 15.5-gallon beer keg I bought at a scrap yard and am in the process of turning it into a brew kettle. My question is, what can I use to make a paddle to stir the wort while it is boiling? My father-in-law says one made out of wood (pine) would be okay. I don't know, so I am asking you.

Harold B. Park
Sacramento, Calif.

I know you didn't want a lecture along with your answer, but I can't help but be the old grumpy wizard that I am! That keg you bought at the scrap yard is only scrap if the brewery that owns it says it's scrap. According to the law, you can only use kegs that breweries have decided to discard. Most kegs that end up in scrap yards get there because someone, usually a fraternity guy, left it in the back of the house until it looked like garbage. Although a deposit (usually about $15) is put down on kegs, the lost value to the brewery is significant because new kegs sell for $100 to $130. So before turning the keg into a brew kettle, make sure the scrap yard is not selling stolen property. Once you buy stolen property, the government lumps you in with the person who stole it in the first place.

So now that I've given you a sermon you didn't expect, on with the question. To be honest I'm not sure why you want to stir the wort during boiling, but I'm not the one asking the question. My first choice of a paddle with which to stir your wort would be a long stainless-steel spoon. You can get these at restaurant supply stores. If

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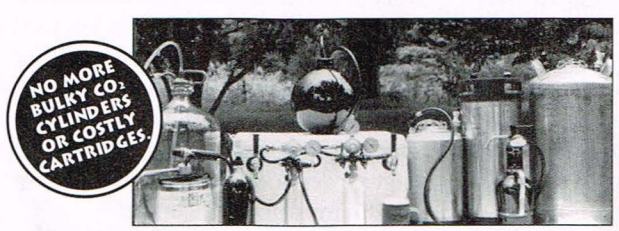

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CIRCLE 8 ON READER SERVICE CARD

you want something cheaper, a wooden spoon or small canoe paddle (like the tiny ones for kids) will work fine. Just be sure the wood does not have lacquer or stain on it, since these materials could pass into the boiling wort. If you make one yourself don't try to make it indestructible by using any type of treated wood, because wood treatments are toxic. For example pressure-treated wood is treated with arsenic to kill little pesky bugs. If on the other hand you're trying to brew up a deadly concoction, then... what am I saying?! Stick to untreated wood and your brew will be fine.

Mr. Wizard

I have recently had an experience that is shaking up my entire homebrew-god belief system. My brew friend and I were on our 19th double 6.5-gallon batch of homebrew when something went very wrong with half the batch. Unfortunately we did not discover that the brew was contaminated until we were the most vulnerable. We cooked batch number 20, and while it was cooling we bottled the contaminated number 19.

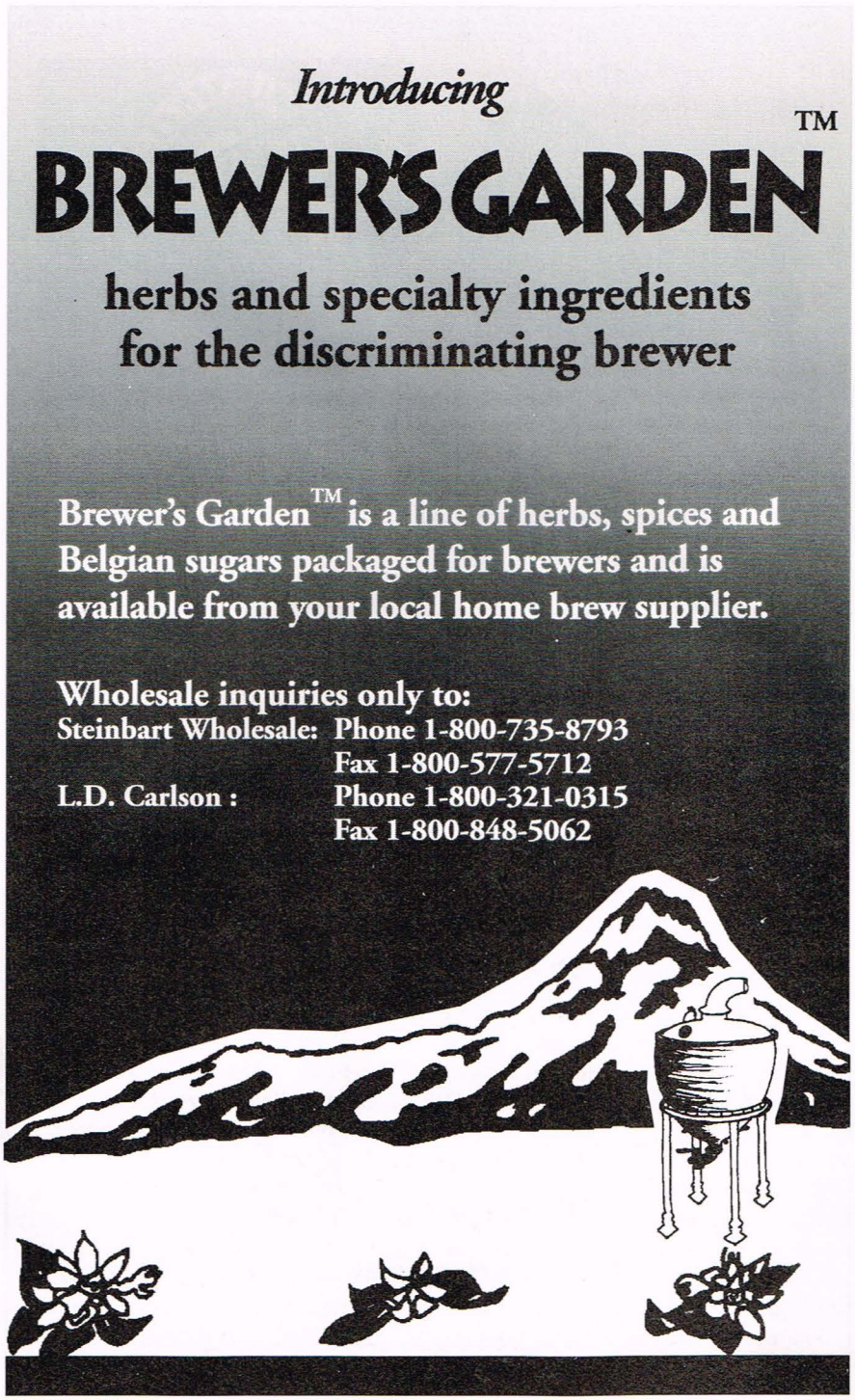
We were about to steal the yeast from this devil-spawned beer to feed the new batch when we drank from the hydrometer flask and discovered that both batches of brew 19 were seriously contaminated (sour, nasty, spit-on-the-wall bad!). The new batch needed yeast immediately. We were lucky to call upon a relative who had one puffed packet of Wyeast Irish. That satisfied one batch, call it 20B. The least nasty of the two contaminated batches yielded its yeast slurry into what we will call 20A. Both fermented wildly, with the Irish being slow to start considering no starter. Two weeks later both 19A and 19B were confirmed lawn nutrient and we bottled 20A and 20B.

Here is what is keeping me awake at night: Batch 20A should be as nasty as its parent 19A, but instead it is actually drinkable. Not great, mind you, and it is still green, having been bottled only two weeks ago, but it is definitely not a don't-sip-it-out-of-spitshot-from-the-sink brew like the contaminated parent. Why did the nasties not contaminate the new beer?

Christopher and Louisa Larsen
Miami, Fla.

This scenario does seem unusual, but there is a plausible explanation for your brewing oddity. I think what occurred is that the yeast harvested from batch 19A was indeed contaminated with bacteria. The fact that the beer bottled from 19A was sour, nasty, spit-on-the-wall bad is evidence of bacterial contamination.

You mentioned that batch 20A began fermenting quickly and vigorously. When a brew quickly begins to ferment, bacteria that are present in the brew have a hard time competing for nutrients that they need. A second set of facts is that yeast lower the wort pH, produce alcohol, and deplete the supply of nutrients as fermentation proceeds, which makes bacterial growth difficult. This means if fermentation takes off quickly and vigorously, a contaminated beer may taste fine shortly after bot-



CIRCLE 19 ON READER SERVICE CARD

tling. This is deceiving because even though the beer tastes okay now it will start to taste sour, nasty, spit-on-the-wall bad sooner or later. I would recommend drinking your supply of batch 20A before the inevitable occurs.

Mr. Wizard

I'm eager to attempt another IPA, but I'm not sure how I want to dry hop. The last (and only) time I dry hopped, I used whole hops in the glass (five gallons) for secondary. It was quite a hassle when it came bottling time. Using the strainer was somewhat awkward and led to aeration. Should I transfer the beer to a food-grade plastic bucket and dry hop using a hop sock? Maybe just use pellets and simply add them to the secondary, let them settle, and siphon the beer off? Will the sock method prevent the hop flavor from dispersing throughout the beer?

Michael Duchock
Phoenix, Ariz.

In my mind one of the biggest downsides of dry hopping is the unavoidable mess associated with the practice. In all of the various methods of dry hopping, there is a considerable quantity of hops, be they pellet or cone, that must be separated from the beer. In your first attempt at dry hopping, I think you chose the messiest method of all to impart that fresh hop aroma into your ale. Straining out hops using a food strainer will also very effectively oxidize your beer and negate any flavor benefits of dry hopping.

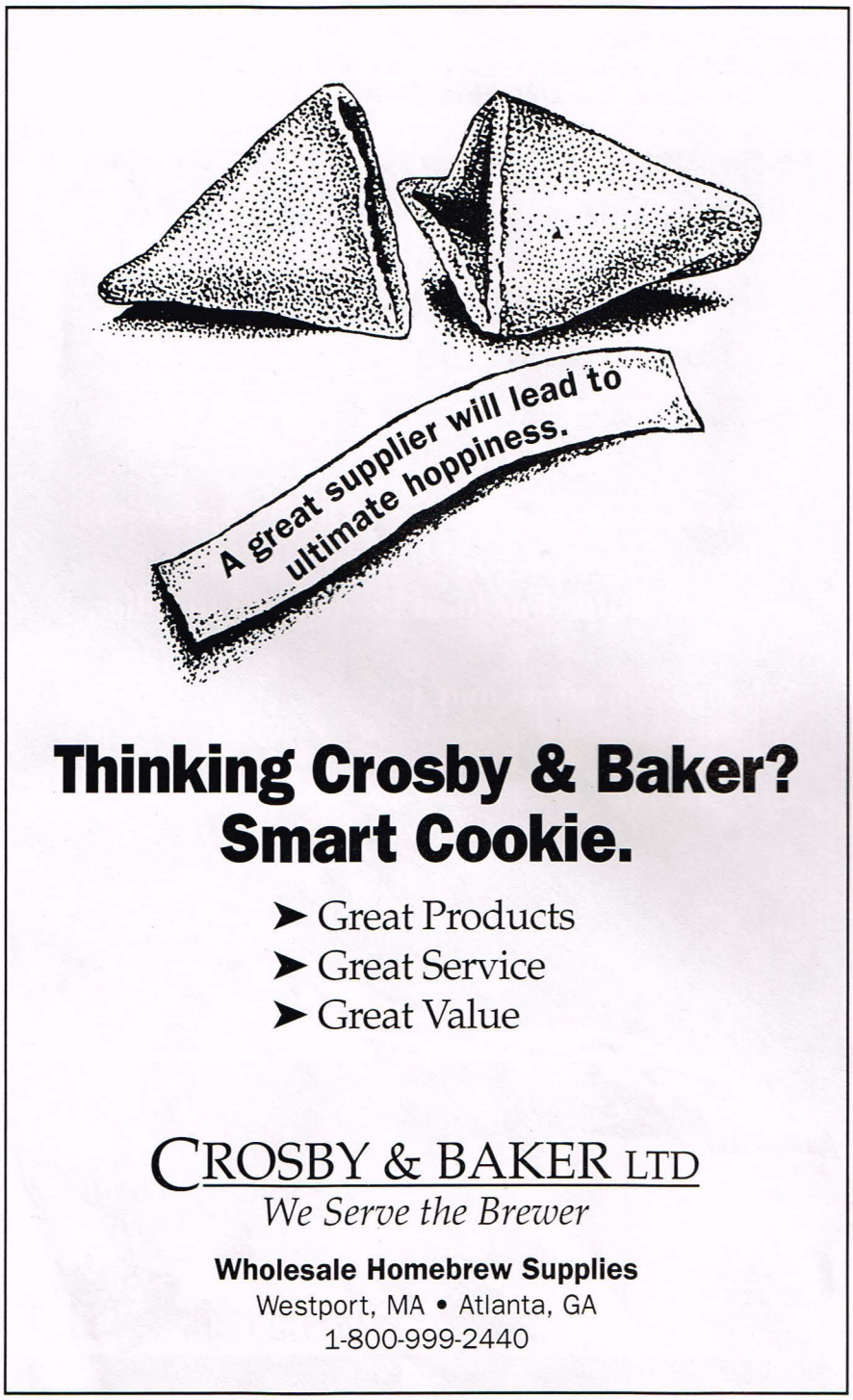
When I dry hop, I prefer using pelletized hops because they are a bit easier to separate. If added to the secondary fermenter, usually a glass carboy, and allowed to sit in the beer for the one to two weeks needed for extraction of flavor compounds, the pellets can be easily separated from the beer simply by racking.

Some brewers prefer cone hops to pellets and would rather dry hop with cones. Cone hops tend to float or just barely sink, so they are much more difficult to separate by simple racking as they tend to clog the racking hose. Stainless-steel scouring pads can be sanitized and placed over the end of the racking hose to prevent the hop cones from clogging it. Another option is to use a hop sock to contain the hops similar to tea in a tea bag. As long as the sock is not jammed too full of hops, extraction of flavor compounds will be as good as with free-floating cones. In fact most commercial brewers who dry hop in aging tanks, as opposed to serving casks, use a hop container fashioned out of stainless steel or cloth. ■

Mr. Wizard's Address

Do you have a question for Mr. Wizard? Write to him c/o Brew Your Own, 216 F St., #160, Davis, CA 95616. Or send e-mail to wiz@byo.com.

Mightier than Mighty Mouse, Mr. Wizard saves the brewing day with his wizardly knowledge and masterful advice.



Carbonate Artificially or Naturally

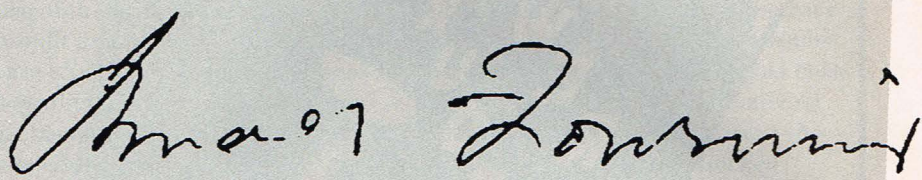
by Suzanne Berens

Artificial carbonation is fast, easy, and exact, and requires minimal equipment. For the homebrewer the same effects can be achieved by kraeusening. In fact, the old German method of fermenting supplies yeast with nutrients that are not found in priming sugar. The result is well-carbonated beer that lacks off flavors.

Birmingham Brewing

The Tips

- To avoid over-carbonation make sure you have a high enough yeast count for your priming sugar or kraeusen.
- Know how a particular yeast strain will react with heat.
- Consider the sort of nutritional needs yeast have in the later stage of fermentation, which will result in carbonation in the bottle.
- Do not exceed the maximum tank pressure when artificially carbonating in a Cornelius keg.



Brewer: Brad Fournier
Brewery: Birmingham Brewing in Birmingham, Ala.
Years of experience: Six
Education: Associate membership to the Institute of Brewing in London
House Beers: Red Mountain Red Ale (amber), Red Mountain Golden Ale, and Red Mountain Wheat

We artificially carbonate by injecting carbonation into the beer in an almost liquid form. We carbonate to about 2.4 volumes (medium carbonation). It doesn't take very long, and it's easy. Whether or not this is better or worse than natural carbonation is entirely subjective.

Some brewers think artificial carbonation is easier because you can carbonate the beer in an hour and you can control the exact volume (carbonation level).

Carbonating naturally is easy, too, but can require additional equipment. I have carbonated naturally at other breweries using the spunding method. This method traps the carbonation in the beer during the last stages of fermentation. For example a typical German brewer might transfer the beer to the secondary once it's 60 percent or more fermented. As a rule of thumb, most brewers will transfer when the beer is one to two degrees Plato (four to eight specific gravity points) away from final fermentation.

At this point the yeast is still producing carbon dioxide. By maintaining top pressure on the secondary fermenter (as well as a cool enough temperature) the CO_2 will dissolve into the beer, creating the carbonation.

The higher the top pressure, the more dissolved CO_2. The higher the beer temperature, the lower the amount of dissolved CO_2.

The secondary container we used was our lagering tank. We put a fermentation lock onto the tank, which allowed us to maintain and control the top pressure on the beer. The regulator released the excess CO_2 created by the fermentation to maintain 10 psi. Because we controlled the pressure and temperature, we could create and maintain the correct level of carbonation.

There are ways to avoid overcarbonation. Some brewers will tap the beer between two plates that inject CO_2 into the beer. We're just careful

not to carbonate for too long. We check the carbonation level of the beer, say every five to 15 minutes, depending on how close we are to establishing carbonation.

Homebrewers can also control carbonation, depending on the carbonation method they employ. The spunding method is fairly easy because you can transfer your beer fairly early into a lagering tank and still have the beer ferment just fine. You don't have to worry about how high or low the carbonation is because you have a pressure regulator. I wouldn't recommend this method for use at home. It requires a pressure vessel and a very reliable regulator. You can't just use a standard keg regulator.

Many homebrewers naturally carbonate with kraeusen (scooping the foamy peaks that appear during the height of fermentation and using this yeast-filled substance to carbonate another batch of beer) or priming sugar. One thing about priming or kraeusening to keep in mind is the nutritional needs of your yeast, even in that late stage of fermentation that produces carbonation in the bottle. Yeast will produce off-flavors if it doesn't have enough nutrition while it's fermenting.

To that extent I would say kraeusening is preferable to priming using corn sugar because kraeusen, which is usually unfermented wort, supplies proteins and other things that yeast need. You'll find you have more esters (fruity flavors) if you use corn sugar.

When priming with sugar or kraeusening, one of the most important things to keep in mind is making sure you have a high enough yeast count for your priming sugar or for your kraeusen to turn into carbonation.

If you decide to kraeusen and don't have a way to release CO_2, then CO_2 is directly proportional to the amount of sugar used to supply yeast. Keep in mind the beer's temperature. You can't possibly establish natural carbonation with an ale strain of yeast at 60° F.

If you're applying any type of lager strain, you want to be sure to keep the fermentation temperature cold or at the standard lager temperature, usually between 5° to 7° C. You have to know the restrictions of your yeast strain.

When artificially carbonating in a Cornelius keg, always be sure to stay below the maximum tank pressure. Overcarbonation in the keg happens when you make a mistake — it's just operator error. The same can be said for carbonating with the spunding method.

There's really no way to go beyond a certain (inadequate) level of CO_2 if you don't give the yeast enough sugar to ferment or if you don't supply the tank with enough pressure.

One advantage to artificial carbonation is that you don't have to worry about maintaining the correct temperature for the yeast. Lower the temperature if you need to increase the CO_2. ■

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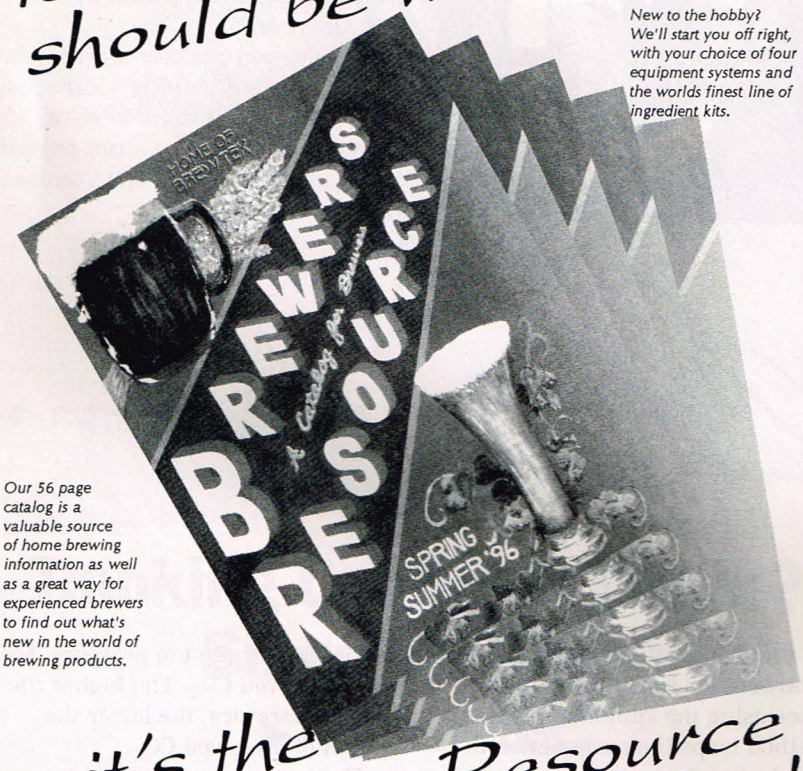

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Brew a Revival-Style Witbier

by Jeff Frane

Beer styles never seem to die out completely, although occasionally they've come close. One of the best Lazarus acts yet has been the Belgian witbier (known as Biere Blanche among the French speakers in Belgium).

Just as the Bavarian wheat beers (weissbier) almost totally succumbed to the introduction of pale lagers, so too did the Low Countries' wheat beer. Once extremely popular in and around Brussels, the beers had virtually disappeared when Jean de Clerq published his landmark brewing text in 1957. De Clerq described several variations and lightly sketched the hopelessly old-fashioned brewing processes used to make them.

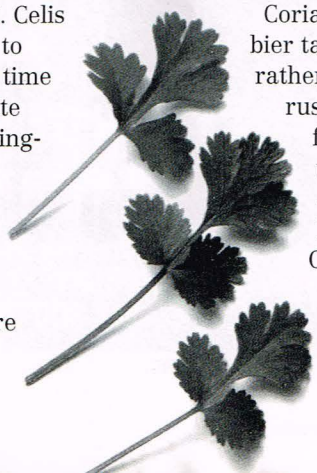
Pierre Celis, who lived in the brewing center of Hoegaarden in Belgium, single-handedly revived the style in 1966. His De Kluis brewery reintroduced Belgium to "white" beer, so-called because of its golden-white sheen. Earlier versions of witbier had apparently been intensely sour, but Celis' Hoegaarden Wit was instead tart and refreshing. Other breweries joined the revival as Hoegaarden flourished, and today there are dozens of witbiers in Belgium, Holland, and northern France.

Celis' success was great enough, in fact, that he was bought out by the giant Interbrew, which continues to produce Hoegaarden Wit, although its version seems toned down and less interesting than the original. Celis moved himself and his beer to Texas (which seemed at the time ridiculous), where Celis White has been met with a surprisingly welcoming audience. Or perhaps not so surprising, for witbiers are ideally suited to hot summer days.

Whether from Flanders or Austin, Texas, witbiers are intended to be flavorful and refreshing. Unlike their near cousins in Bavaria, witbiers are brewed with raw, unmalted wheat. The result is somewhat lighter and crisper than weissbier, without the latter's characteristic clove-vanilla flavors. White beers are actually golden but with a distinct haze and a frothy white head. They were certainly known as white beers originally in contrast to darker beers, much as the pale Bavarian wheat beers were called weiss or white in contrast to the more common brown beers.

If we can call weissbier spicy because of the phenolic notes from wheat malt and a special yeast, witbiers are truly spicy — for spices are an integral ingredient. Before the use of hops became universal, medieval brewers added many different plants to their beer to flavor it and protect it from spoilage. Only the Belgians retain the practice today, alongside hops.

The most common spice used is coriander, which puts witbier in curious company. Coriander is the seed of *coriandrum sativum*, the plant perhaps more commonly known as cilantro or Chinese parsley. Food writer Bruce Cost has noted that coriander/cilantro is the most commonly used herb on the planet, a basic ingredient in the cooking of China, Southeast Asia, India, and Latin America.



Coriander doesn't make witbier taste like fresh salsa but rather contributes a certain citrusy zest. The spiciness is further enhanced by the use of dried orange peel — bitter orange, also known as Curacao Orange.

In common with Berliner weiss, another German wheat beer, witbier may contain a lactic acid element that further enhances the beer's tartness. The acidity, mandatory in Berliner Weiss but optional in witbier, comes from the action of Lactobacillus cultures.

Witbiers are composed of roughly equal portions of raw wheat and malted barley. Traditionally, the malt was what is known as wind malt, which was dried without kilning and subsequently very pale. With the very low color from the wheat, this results in the characteristically pale gold color.

Raw wheat is readily available (cheap!) at health food stores or the bulk section in any well-stocked market. Raw wheat is also extremely hard and much more difficult to grind than malted wheat or barley. It likewise calls for special efforts in the brewhouse because of its high protein levels. Decoction mashes, which are complicated and time consuming, will help considerably, as will step-infusion mashes with a long (45 minutes) protein rest.

If complicated mash programs sound like too much work, or the difficulty of grinding the wheat is too great, the simplest solution is to substitute flaked wheat for the raw wheat. I have recently seen torrified (puffed) wheat in the homebrew market, and this might be an interesting alternative to explore.

Few of us have access to wind malt, but any good two-row malt of very low color will be fine.

Some witbiers, including the original Hoegaarden (but not the new version), contain about 5 percent oats, which are credited with adding some

smoothness to the beer. Again, rolled oats are readily (and cheaply) available at any grocery and lend themselves to any sort of mash.

Extract brewers have their work cut out for them in producing authentic witbiers. Raw and flaked wheat require mashing, and the barley/wheat extracts in the market are made with malted wheat. Getting authentic flavor and color is tough. The Half-Wit extract recipe (at right) is a good place to start, but some experimentation will definitely be required.

Witbiers are hopped, but hops barely figure into the flavor profile. British and Continental low-alpha varieties are most appropriate (Kent Goldings, Saaz, Hallertauer or American clones such as Mt. Hood or Liberty, for example). Distinctively American hops such as Cascade are all wrong, as are high-alpha varieties.

Spice is an unusual ingredient and something brewers may be unsure about. Use good, fresh coriander seeds (grind them just before use if you have

Half-Wit

(5 gallons, extract)

Ingredients:

- 4 lbs. Alexander's extra light malt extract
- 1 lb. Laaglander extra light dry malt extract
- 1 lb. dry wheat malt extract
- 3 lbs. flaked wheat
- 2 lbs. 2-row lager malt (crushed)
- 2.25 oz. Saaz hops (3.2% alpha acid), 2 oz. for 60 min., 0.25 oz. at finish
- 1 oz. coriander for 5 min.
- 0.5 oz. bitter orange peel for 20 min.
- 1-quart starter of Wyeast 3944
- 3/4 to 1 cup of corn sugar for priming

Step by Step:

Soak the flaked wheat and lager malt together in 1 gal. of 150° F water for 90 minutes, then rinse to kettle and add extracts. Add sufficient water to bring to 2.5 to 3 gals. Boil for 30 minutes, add 2 oz. hops. Boil for 40 more minutes. Add orange peel. Boil 15 minutes. Add coriander. Boil five minutes, turn off heat, and add remainder of hops. Add wort to pre-boiled, chilled water to 5 gals. Aerate thoroughly, and pitch yeast. Follow normal fermentation and bottling procedures, using 3/4 to 1 cup of corn sugar at bottling.

OG = 1.050

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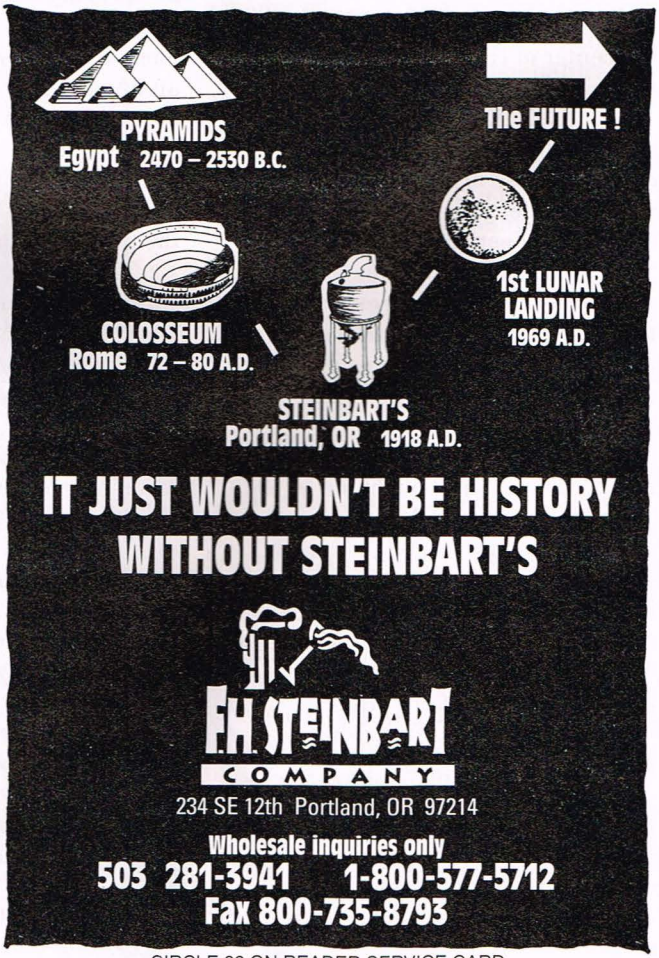

CIRCLE 32 ON READER SERVICE CARD

a mortar and pestle) and add during the final moments of the boil. Start with about 0.75 to one ounce per five-gallon batch.

Bitter orange peel is apparently common enough in Europe but is tough to find in the United States. Fortunately as the interest in Belgian beers has grown, homebrew suppliers have begun to stock the more exotic ingredients. Check your local store or mail order sources. The peel is added late in the boil when about 20 minutes remain.

There are several possibilities for yeast strains, but a favorite (which also makes superb strong Belgian ales and Trappist-style beers) is Wyeast 3944.

The witbier brewers who use lactobacillus pasteurize the beer after the correct level of sourness is reached. Obviously, this isn't a particularly useful technique for homebrewers, and even the bravest might be reluctant to allow lactobacillus loose in the brewhouse at any rate. A facsimile can be achieved by using food-grade lactic acid (88 percent) at bottling. Levels of five to 15 milliliters in a five-gallon batch work well, but the beer will require some time (one to two months) for the flavors to blend.

This month's guest recipe is from David and Melinda Brockington. It is an all-grain recipe that David notes is in a continual state of change. He writes: "This recipe has done well at competition, taking a blue in a regional competition here in the Northwest and a second place at the 1993 Dixie Cup, where Pierre Celis himself judged the beer." ■

Zoso White

(10 gallons)

Ingredients:

- 6 lbs. DeWolf-Cosyns Belgian pilsner malt
- 1 lb. Great Western malted wheat
- 5 lbs. unmalted wheat flakes
- 1 lb. oat flakes
- 2 oz. Mt. Hood, 21484, or Liberty hops (about 3.8% alpha), 1.25 oz. for 60 min., 0.5 oz. for 15 min., 0.25 oz. at end of the boil
- 17 grams Curacao, 9 g. for 20 min., 8 g. at end of the boil
- 23 grams coriander 20 g. for 5 min., 3 g. at end of the boil
- 1- to 2-quart starter of Wyeast 3944

Step by Step:

Mash grains for 30 minutes at 120° F. Raise temperature to 152° F and hold for saccharification (about 60 minutes). Sparge to 11.5 gals. and boil for 30 minutes. Add 2 oz. hops and boil for 40 minutes. Add 17 g. Curacao and boil 5 minutes. Add 0.5 oz. hops and boil 10 minutes. Add 20 g. coriander and boil five minutes. End boil and add remaining hops, Curacao, and coriander. Aerate thoroughly and pitch yeast. Follow normal fermentation and bottling procedures.

OG = 1.050

— David and Melinda Brockington

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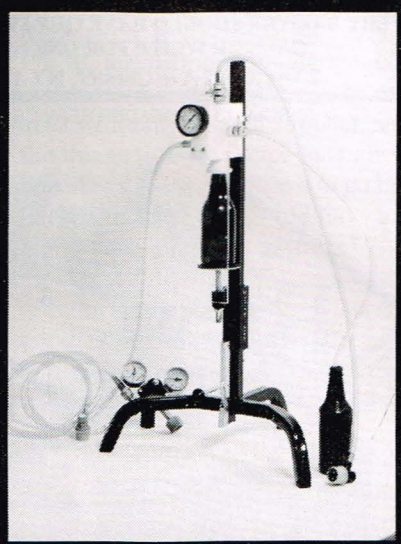

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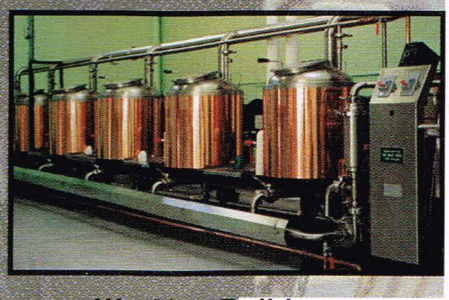

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7 Questions to Ask Your Retailer

by Erin Nantell

Do you get the most out of your visits to the homebrew shop? If you just walk in, pick out what you want, and pay the cashier, you may be missing out on a valuable resource.

Most store owners are experienced homebrewers who are knowledgeable about brewing ingredients, equipment, and techniques. And they like to talk brewing; that's why they're in the business. So the next time you go shopping, ask the proprietor a few questions. Here are eight that will help guarantee you get the best products as well as a bit of free advice.

1

Would you look over my recipe?

Bring your recipe with you to the homebrew shop and ask the retailer if the recipe looks like it makes sense.

It's not unusual for a recipe that's been rewritten and exchanged to contain an error. One brewer, for instance, had a recipe for brown ale that called for three pounds of black patent malt. Fortunately, the retailer saw it and recognized that the proper amount was three ounces.

There's another problem that arises, too. "Often, especially with recipes exchanged over the Internet, the recipe contains substitutions that were made as a matter of necessity," explains Paul Dyster of Niagara Tradition, a homebrew shop in Niagara, N.Y.

"If, for example, the person got the recipe from someone who lives in an area with only a small supplier, some of the things in their recipe may already be substitutions. You have to go back to figure out what they could have used had it been available to them."

According to Dyster, customers often bring in standard recipes from popular homebrew books. He'd like homebrewers to ask, "What could I do to change this recipe that people have made 1,000 times before?"

Homebrew shops are also a good place to obtain recipes. If you decide on a particular style or even if you'd just like to experiment, inquire at your homebrew shop for a good recipe. Often you can get one the shop owner has tested and reworked to near perfection.

2

How is this product used?

You find a British dry malt and a Dutch dry malt. What's the difference? Dyster says he'd love to hear a customer ask for an explanation of when to use each. "This particular Dutch dry malt finishes at a higher

gravity and retains much more body," he explains. "It's an excellent choice if you're looking to retain the residual sweetness but not if you're looking for a dry finish."

Similarly, you find a variety of yeast cultures. Which one is best suited for your brewing environment? "Ask if the particular culture is appropriate, if it will work at the temperature in your house," Dyster suggests. While freshness and quality both warrant consideration when you buy, first you must make sure you're buying the correct product for your needs.

3

Is this an all-malt extract?

With all the time and energy that goes into homebrewing, you want to make the best beer possible. This, of course, requires using quality products.

"There are a lot of off-brands out there that are of inferior quality," explains Jim McHale of Beer Unlimited in Malvern, Pa. Further muddling the process is the fact that prices do not always reflect quality. "Off-brands are not all that much cheaper," McHale cautions.

Major canned-extract brands provide high-quality malt syrup. Most brands are 100 percent malt, but some off-brands may have a percentage of sugar syrup. It's not necessarily bad to brew with an extract that's less than 100 percent malt but, says Sam Wammack of The Homebrewery, based in Ozark, Mo., "It's important for people to brew with 100 percent malt extract if that's what they're paying for."

When purchasing extracts, you should also look for a "sell-by" date. Canned malt extract has a long shelf life, but it doesn't last forever. And as it gets older, it loses some of its fermentability. That means you can still brew with it, and you can still make good beer with it. However, your beer might not come out as well as it would have with a fresh can.

How old is too old? Many retailers agree that extract syrup will easily last two years. It's hard to say what the outer limit is, but one extract manufacturer pegged it at 10 years.

If you find yourself with a dateless can, the best thing to do is ask the retailer how fast the cans turn over. If nothing sits on the shelf more than a month, you can feel fairly confident you're purchasing a fresh product.

4

About the grain...

When it comes to grain, the questions to ask vary according to which type of grain you are requesting. If you buy pre-crushed grain, inquire as to whether the grain is crushed to order.

"I've known a few homebrew shops to pre-crush grain; that's a bad deal because it gets stale," Wammack warns.

If it's not properly packaged, pre-crushed grain will start to lose freshness after about a week. The problem is that it picks up moisture from the air. Some pre-crushed grain is vacuum packed in plastic, which does keep it fresh. But pre-crushed

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grain shouldn't be left in open barrels.

For maximum freshness only buy pre-crushed grain that is crushed to order or vacuum packed, and hold off on buying it (or opening the package) until right before you're going to brew.

You should also ask how the grain is stored. Jeff Mellem of Brewers Resource, Camarillo, Calif., says his company stores the grain in large bins that are purged with carbon dioxide to maintain the pressure and prevent contamination. Storing grain in bins prevents moisture from getting to the grain, a problem that occurs when the grain is stored in sacks.

About the hops...

One thing all retailers agree on is the importance of fresh hops. "If the hops don't smell fresh, they're not," McHale advises. Unfortunately, if the hops are stored in a nitrogen-purged foil bag, you won't know how they smell until after you've purchased them. In this case ask the retailer how long the hops have been in the store. Refrigerated, both pellet and leaf varieties have a shelf life of about two years.

You always want to hear that the hops are refrigerated. Hops need to be protected from heat and air so if they are not in the fridge, go elsewhere.

About the yeast...

Yeast has a much shorter refrigerated shelf life than hops. It lasts four months from the packaging date, which should always be printed on the package. If the package doesn't have a date on it, don't buy it. Similarly, avoid the packets that come with cans of malt extract. Instead, buy the yeast separately to ensure freshness.

And while you want fresh yeast, you may annoy your retailer if you're digging through all the packages trying to find the one that arrived yesterday as opposed to two weeks ago. You do, of course, want to inquire as to the strain of yeast, as different styles of beer require different strains.

What changes can I make to get better beer?

A knowledgeable retailer can help you make adjustments if your last batch was a bit off. If you can explain exactly what the problem was (for instance, not full bodied) the retailer can point you in the right direction for next time. It's a good idea to bring a bottle of your last batch with you to let the retailer sample the beer. This will help the retailer best discern where you went wrong. Most likely, a little fine tuning is all that stands between you and perfection!

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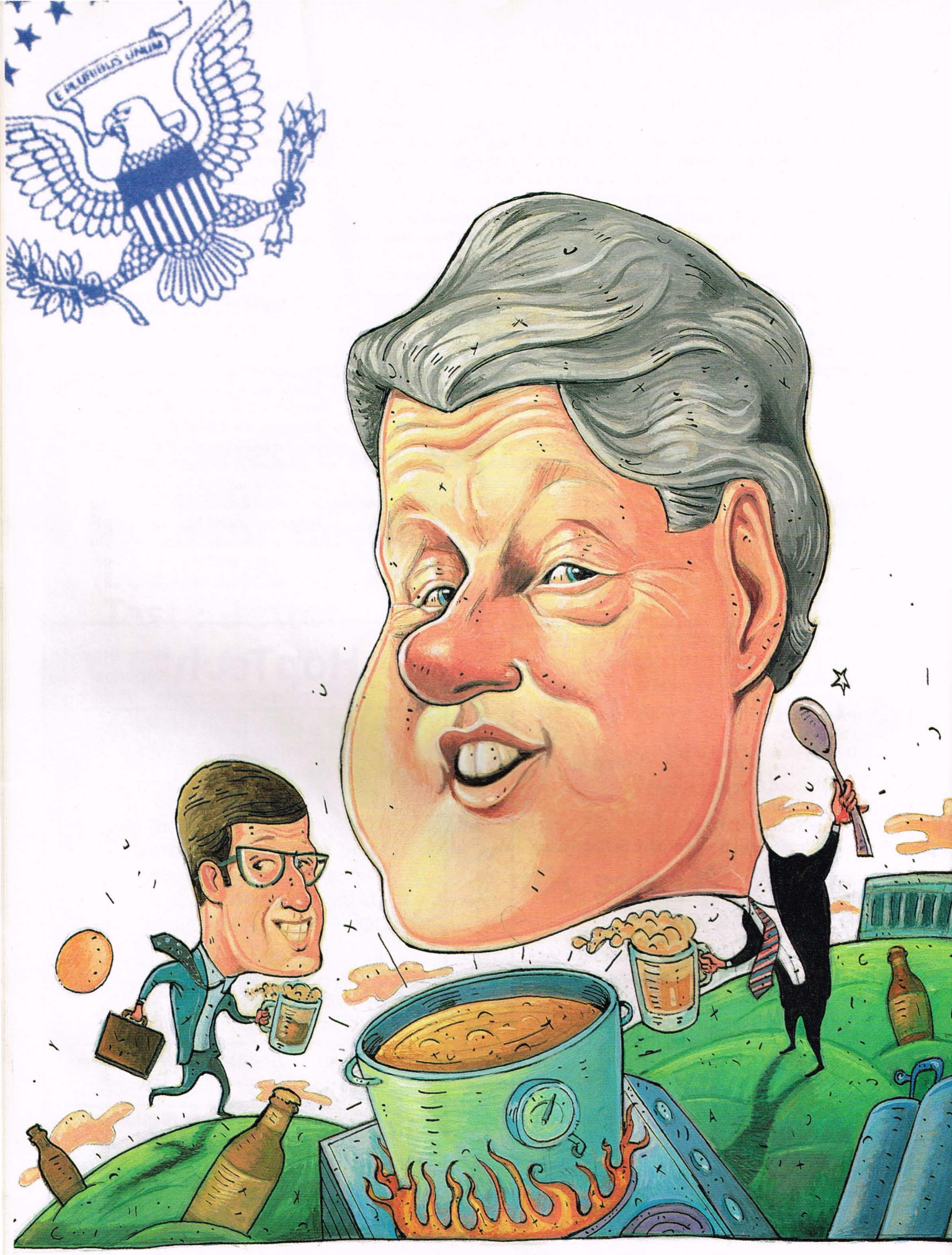

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HOMEBREWER ON CAPITOL HILL

And other tales of beer, power, and politics

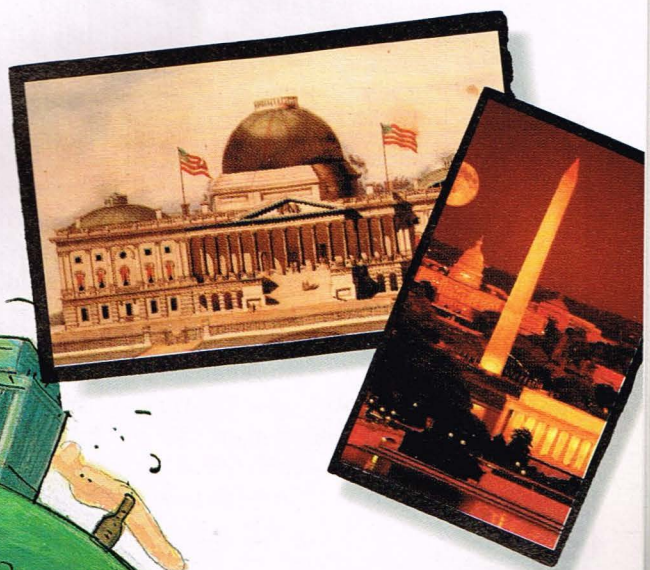
by Suzanne Berens

It sounds hard to believe, but the pizza-flavored beer Rich Klein brewed seven years ago raised his status on Capitol Hill, where he worked as speech writer for a US senator.

When a piece of pepperoni fell into the wort during his first attempt at homebrewing, Klein and his friends saw it as a positive sign: It would add flavor. That first brew also marked the first step in Klein's determined effort to open his own microbrewery.

Today, neither pepperoni nor any other pizza toppings can be found in beer brewed at Wild Goose Brewery in Cambridge, Md. Klein's association with the brewery — he's founder and vice president — now carries cachet among his higher-ups in government as a symbol of achieving the American dream.

"The Hill's reaction to me was,



Morality, Money, and Moonshine

by Amy Jabloner

Ever since Thomas Jefferson penned the first draft of the Declaration of Independence over a tankard of ale in Philadelphia's Indian Queen Tavern, American politicians have had a love-hate relationship with beer.

"Beer is proof that God loves us," according to one of the country's founding fathers, Benjamin Franklin. But beer is not proof that the government loves us. Congressional mandates concerning taxation, regulation, and prohibition have all affected how, what, where, and when Americans can quaff beer.

When the Continental Congress met in the late 1700s, alcohol consumption was about 5.8 gallons per person annually. At least some of it was homebrewed by Jefferson, George Washington, and Samuel Adams; beer was extolled as virtuous and wholesome.

Not surprisingly, alcohol consumption peaked in the United States at about the same time the temperance movement began. In the 1830s the average American drank about 7.1 gallons of alcohol per year. As a result, Carry Nation and fellow temperance crusaders set out to save the moral fiber of Americans by ending the consumption of the devil's drink.

Condemnation of the "evils of drink" eventually led to the "Noble Experiment" of Prohibition in 1920. With the passage of the Volstead Act (a law to implement Prohibition) and the passage of the 18th Amendment, Congress banned alcohol and started the biggest boom in homebrewing the nation had ever seen.

Congressional debates on Prohibition between the 'wets' (pro-alcohol) and the 'drys' (anti-alcohol) ran the gamut from deadly serious to thoroughly inane. Congressman O'Connell of New York stated during the debate over Prohibition enforcement, "This bill, if enacted, will increase the unrest among our people and leave an open cancer in the body politic into which the Bolshevist and Socialist microbe will crawl." In other words, outlaw beer and the country will go to the Communists.

A 1919 newspaper article on Prohibition enforcement declared that under Prohibition even buttermilk might be banned. Because buttermilk ferments, "abstemious persons who drink buttermilk freely as a beverage did not know with what a menace they were dealing when they toyed with the by-product of the cow."

"Wet" women were also targeted by Congress. Mrs. Margaret Rooney protested Prohibition on the steps of the US Capitol by advocating "personal liberty in this cause, and you can bet your life we'll go to hell to get it." She was denounced by Congressman Cooper of Ohio as "insulting to American motherhood."

The Depression, alcohol-related crimes, and the need for increased expenditures for law enforcement took its toll on Prohibition. The Noble Experiment ended with the passage of the 21st Amendment in 1933.

Most members of Congress and President Franklin D. Roosevelt openly supported repealing Prohibition and modifying the Volstead Act, ironically, not because they felt prohibition was wrong but because they were desperate for money; the federal government was running a deficit of $4 billion.

The repeal of Prohibition, however, did not mean the end of homebrewing. Even though in 1933 Congressman Sweeney of Ohio believed that the products homebrewers produced were not "comparable to the beverage produced by a skilled brewer, and especially the great industrial brewers of this country," and that, as a consequence, homebrewing would be abandoned.

Due to a congressional oversight, home production of wine was made legal soon after Prohibition, but homebrewing was not. Nearly half a century after the end of Prohibition, homebrewing was finally legalized. In October 1978 President Jimmy Carter signed HR1337, an act to amend the "excise tax on certain trucks, buses, and tractors." Buried within was an amendment permitting homebrewing.

Under the 1978 law single homebrewers within the legal drinking age may brew up to 100 gallons of beer per year. In households with more than one adult, the limit is 200 gallons of beer. Nearly two decades later, homebrewing is legal in a majority of states. (States regulate intoxicating liquors under the US Constitution).

Resistance to the 1978 homebrewing law was negligible. Only three representatives, including former Vice President Dan Quayle, voted against the homebrew bill in the House of Representatives. But the Bureau of Alcohol, Tobacco and Firearms voiced concern.

According to the ATF, the leftover mash from brewing contains sugar and yeast, which could be used to make moonshine. While introducing a homebrew bill, Sen. Alan Cranston of California facetiously noted that it was a shame that the ATF believed "hordes of phantom moonshiners are lurking in the basements and closets of ordinary citizens who make beer in their own homes."

Beer, once banned and panned by Congress, now again is blessed and honored. National Homebrew Day and Great American Beer Week have both been officially recognized on Capitol Hill. The founding fathers would be relieved that beer in moderate amounts is once again extolled as wholesome. Let's hope the next "noble experiment" will result in the Great American Beer.

'Wait, you're not a lawyer, you don't have a law degree, you're not going to the Junior League fund-raiser. You're going to brew beer. That's cool,'" Klein said. "There definitely was a fascination for it. Everyone I worked for really respected Wild Goose. They wanted someone on their staff who could appreciate the plight of small businesses or entrepreneurs. I can talk about it so it really means something. Senators really appreciate and understand that.

"It has given me a critical eye as well as sensitivity to certain issues. It also has enhanced my ability to write and be analytical and has given me a more authoritative voice."

That voice has earned the respect of former employer Sen. Frank Lautenberg, D-N.J., for whom Klein wrote speeches a few years ago. Klein said Lautenberg and other Capitol Hill congressional figures see Klein's brewery as a great American success story of a young man who partnered with other people, worked hard to build a business, pays taxes,

Amy Jabloner
Attorney on Capitol Hill

I have been brewing a little less than two years. I bake a lot, and brewing was a natural extension. I like making beer. It's tactile. It is a challenge plus, with the yeast and the grains, it incorporates many things I already know from baking.

During the first government shutdown back in December, I started a batch of chocolate stout, more to keep myself busy than anything. I'm a contractor, which means I don't make money unless I'm working. So it was kind of a difficult time.

There wasn't much I could do, so I started brewing. I was taking my vacation time. I considered calling it Down and Out Stout. It was my first attempt at a stout. It was kind of appropriate because it was dark, and it was December.

It turned out more amber than I wanted it to be, but it was definitely very drinkable. It wasn't quite stout material; it was closer to a porter — less substantive than a stout. Still, it was good.

Amy Jabloner, an attorney on Capitol Hill, turned unemployment into a brewing opportunity.

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Six Idiots Ale
by Rich Klein

Otto von Bismarck, who surely knew something about good beer, said, "If you like laws and sausages, you should never watch either one being made." Add beer to that warning, at least where the staffers who help write and pass laws are concerned.

Admittedly, this was a first attempt at homebrewing. But you would think that six reasonably smart guys — Nick, a Senate staffer who handled issues such as banking and commerce; Bob, nicknamed the "Irritable Viking" for simply breaking every Congressional rule of office etiquette while completing a Senate fellowship on environmental policy; Rob, the clinical psychologist; Tim, the lone "real worlder" among us who worked in finance; Steve, the perpetual graduate student; and me, a Senate speechwriter— gathered one winter night in a rowhouse on Capitol Hill's North Carolina Avenue with a basic pale ale kit and the requisite Papazian books would put up a decent homebrew batch.

I doubt we could even blame Murphy's Law; after all, everything that went wrong was of our own doing. But what did we know? The books and the kits made it seem so simple. So when I asked, "Has this pot been cleaned and sterilized?" and the response was "I think so...it looks like it..." we were well on our way.

A piece of pepperoni fell into the wort? It would add flavor. Can't get this cold enough? Ah, what's five or 10 degrees? Wait a minute, let's catch the Celtics-Bullets game on TV for a little while. This Anchor Steam is great, wait until our homebrew is just as good. Is the yeast ready? Don't know, but it's just yeast, so it can't be too complicated. Okay, we're done, let's get outta here, we can clean up later.

So was born Six Idiots Ale. Tim and Steve were kind enough to keep an eye on the fermenter and take hydrometer and saccharometer readings. When the lock on the top of the fermenter blew, Steve wiped it off and set it back in place. Then again, at least we had fermentation going.

Rich Klein and five Capitol Hill cronies made every brewing mistake possible. Should American tax payers be concerned?

Bottling was just as haphazard. Nick got us cases of empty Rolling Rock bottles from Garrett's in Georgetown, the bar where he moonlighted. Most got sterilized, I guess; some didn't, I'm sure. Corn sugar was everywhere.

Pepperoni grease on the caps couldn't hurt. Big plans were made: We'll brew five or six styles in the coming weeks, then serve our own beer at a barbecue. This was easy.

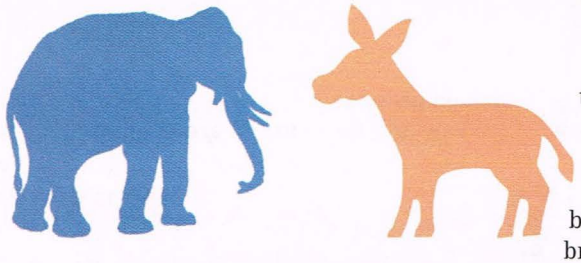
And then Six Idiots Ale was ready to drink. That it looked cloudy, even soapy, didn't matter. After all, homebrewing is unsophisticated, we thought: no filtration, no pasteurization, yeast is good for you. That it smelled, well, like nothing wasn't a concern; we'd simply used a kit and underhopped. That Six Idiots Ale tasted like pickle brine and soap and was pretty much undrinkable was a big disappointment.

What followed was the equivalent of a post-vote or post-debate letdown: Where did we go wrong? How did we mess up so badly? Six smart guys, men who help to shape policy and pass laws, could not follow a recipe?

In retrospect it was amazing we were able to coax fermentation at all. But we learned our lessons. Pepperoni — or any pizza topping — is a bad additive to wort. Cleanliness isn't next to godliness, it *is* godliness where brewing is concerned. Yeast is pretty basic, but there is a reason yeast cells haven't evolved much in 10,000 years: temperature, that five or 10 degrees we cut corners on, has a huge impact on them.

All in all, a homebrewing debacle produced some good things. We may still be six idiots, but we've learned a lot about brewing. If you keep an eye on the details, take every precaution, and allow your creative impulses to work within the brewing process, the results are amazingly satisfying.

Too bad the same has not been learned or put into practice in the work of Capitol Hill — the improvements could be just as dramatic and the results just as encouraging. If von Bismarck had seen us around that homebrew fermenter, he undoubtedly would have included us in his admonition.



and prospers.

"One day I got on an airplane going from Washington, D.C., to Newark, N.J.," Klein said. "I sit down, and two minutes later Senator Lautenberg comes up and sits in the aisle across from me. He says, 'How's the brewery? How are you doing?' We get up to leave the plane, he grabs me by the arm, stands back, and tells every person getting off the plane, 'This guy used to work for me. You be sure to drink your Wild Goose beer.' It was nice because he really did think it was a fascinating thing."

Apparently other Capitol Hill staffers were fascinated as well. Klein, who now works for the Clinton administration as speech writer for US Secretary of Commerce Mickey Kantor, boasts a bipartisan staff at the brewery. Employees include a former official for the Energy Department during the Reagan administration and a woman who was the first director of consumer safety under former President Nixon.

They have come together because of their connection with Capitol Hill and interest in brewing to take part in what is now a 75-barrel brewery that distributes in 20 states. Klein describes Wild Goose as homebrewing run amok.

For two years he brewed beer using a five-gallon enamel pot, a plastic fermenter, the requisite Charlie Papazian books, and some trade magazines. Lacking refrigerator space for lagering, he stuck with ales, which he made about once a month on cold, winter nights.

A Little Bit of London

Following a trip to the West Coast, Klein was impressed with the area's microbreweries and wondered if they would catch on in the East Coast. Believing they might, Klein gathered 10 of his high-school buddies and formed a plan to pool their resources. The buddies backed out one by one, but Klein was determined to succeed. Although his mother was skeptical, his father's advice bolstered his confidence.

"My mother said, 'You're 22, you're writing, you're doing well. What do you need to do this for?' My father said, 'The worst that can happen is he'll go Chapter 11. If he doesn't do it, someone else will, and he'll be kicking himself for not trying.' From there it took on a life of its own," Klein said.

Through his job as a reporter at U.S. News and World Report, he heard that the assistant secretary of energy for congressional, intergovernmental and public affairs, Theodore Garrish, was a homebrewer interested in starting a brewery. At the time Garrish oversaw the Energy Department's nuclear energy division. He thought Klein was trying to dig up dirt about him, so he dodged messages.

"Finally I left a message saying it

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had to do with beer," Klein said. "Turns out we were so in synch. So we started brewing."

Few and far between are the days of making beer at home, but Klein has not strayed too far from his brewing roots. He still concentrates mostly on ales because that's what he enjoys drinking and is used to brewing.

"I spent time in London and had real, cask-conditioned ales. It was like going to Mecca," said Klein.

The beer styles may be Old World, but the brewery is not as traditional in its approach to equipment. Wild Goose recently underwent a $1 million expansion. All the 25-barrel equipment has been augmented by 50- and 100-barrel equipment. The original 7,000-square-foot brewery is now 25,000 square feet.

Klein discovered that brewing, whether at home or on a larger scale, has similarities to writing speeches as well as enough differences to make it feel like an escape from political work. Both are creative endeavors, but brewing produces a product that can be touched — and consumed.

"You're writing a speech for the secretary of commerce the same way you're brewing a batch of beer," Klein said. "You have to be exacting and meticulous with an eye for detail. That speech needs to be ready when it needs to be, just like the beer needs to be racked, filtered, or bottled when it needs to be. Both allow you to put your personal stamp on something in a very definite way."

On the other hand, speech writing is an inexact science, Klein said. For all its creativity, brewing is a fairly exact science. It is also an activity in which writer's block is never mentioned and results are a bit more concrete.

"I've been a reporter for U.S. News and World Report and a speech writer on and off for the last six years," Klein said. "I love the opportunity to roll up my sleeves, not wear a tie, and have a tangible product to show at the end of the day. If I write a good article or speech, it's words. With beer you can hold something in your hand. Also, it's just fun. I love being in the brewhouse. I love the way it smells. I love the way it sounds. I love the way it looks."

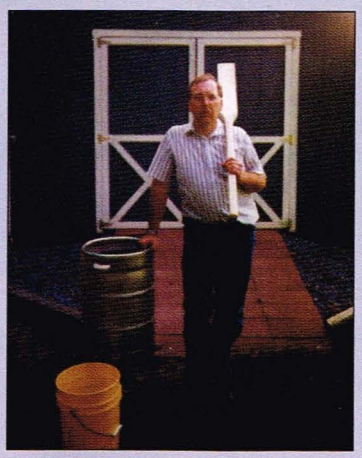
"It's Terrible"

Klein's goals in both speech writing and brewing are the same.

Philip Shipman
Documents Clerk, US Senate Judiciary Comittee

I don't really talk about brewing at work. The only time is if I go have a sandwich during a lunch break with another staffer who knows about brewing. Otherwise I don't really mention it. But apparently word got around.

I take care of witnesses during hearings. Nameplates for witnesses are made down in the service department. I picked up witnesses and went to the service department one day to get their nameplates. I was going through the names and saw that they had spelled out nine. But there were only eight witnesses. The ninth one said, "Phil — brewmeister."



Philip Shipman tries to keep his interest in brewing low key among fellow Capitol Hill staffers.

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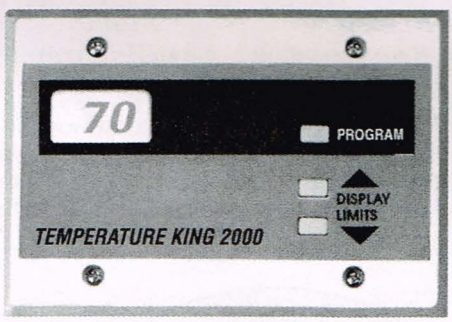

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CIRCLE 73 ON READER SERVICE CARD

Informing the public of issues and legislative goals and promoting candidates are key to speech writing. As a brewer, he wants to promote and teach people about his product and how to make it. In some ways he approaches brewing with the vigor of a campaigner.

"When we first opened Wild Goose, we had one draught account," Klein said. "It was in Washington, D.C., and I took about 10 people there one night and asked for five pitchers of Wild Goose Amber. The waitress said to me, 'Are you sure you want that? It's terrible.'

"My face dropped, and I was around all my friends. I said, 'Why do you say that?' She said it was very bitter and very strong. I gave her my card and said gently, 'We call that full-bodied, we call that malty, we call that hoppy, and this is what beer's supposed to be like.

"She thought I was going to have her fired. I said, 'No, I want to teach you.' This whole process is about education. First it was about how it's okay to drink a beer you never heard of. Then it was about it's okay to drink a beer you can't see through. Then it was okay to drink beer in a style you never heard of. The learning curve has been straight up. It's phenomenal."

Bill Bright
Legislative Aide, US Senate Judiciary Subcommittee on Antitrust, Business Rights, and Competition

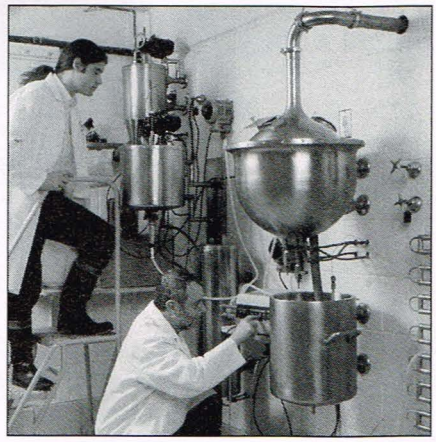
During the Christmas season of 1994, I decided to try my hand at brewing a seasonal winter ale. The goal was twofold: First to try something new and second to have something different to give friends as a gift.

I used a recipe for a winter warmer that had an old ale base, spiced with cinnamon, nutmeg, and orange zest. I had to leave out the orange zest because I couldn't get to the grocery store and was on a tight brewing time frame. In any event, even with the tight time frame brewing went smoothly and the gifts were ready on time. Before leaving Washington for Vermont, I passed out samples as gifts among my co-workers, wishing them all hoppy holidays.

Upon my return to Washington, I was surprised that my brew had been a topic of conversation among five or six of my co-workers. They had been trying to figure out what spices I used in the beer. In fact two close friends spent nearly two hours discussing this while tasting the beer one evening. They arrived at my desk, list in hand of spices they thought were in the beer. This list included vanilla, licorice, and even cumin!

Needless to say, they may have been great at writing legislation, but their tastebuds needed some work.

GET SERIOUS.



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TAP Into Kegging

Get fresh beer faster, avoid yeast sediment, and say good-bye to washing bottles.

by Kirk Fleming

One of the most enjoyable ways to serve beer is with a kegging setup using soda canisters. Besides the advantages of kegging, having real draft on tap is a lot of fun. No more washing, handling, and storing bottles; no more worries about too much or too little carbonation; no more yeast sediment in your glass; no more waiting for bottle conditioning before enjoying that latest brew.

Because you'll pressurize and dispense with carbon dioxide instead of air (as you do with kegs from the party store), your beer will taste great many months after kegging. There's no need to consume it quickly.

Of course kegging has its tradeoffs. It'll cost $150 to $200 to get started, and you'll need a way to keep the beer cold or chill it just before serving. You can't mail kegs to competitions, and it's hard to give friends samples to take with them. While it's easy to keep a wide variety of cold beer on hand in bottles, that could get expensive with kegs. Still, kegging at home is as convenient as it gets.

Go from zero to five pints in less than a minute! The BMW of homebrew-beer dispense is a five-gallon Corny keg, 10-pound CO_2 bottle with dual-guage regulator, pressurized CO_2 line, and a cobra tap on flexible dispense tubing. This kegging system can be yours for $200.

The most common home setup uses a five-gallon stainless steel soda canister often called a "Corny" keg. The name comes from the Cornelius Co., a major keg manufacturer. Kegs also come in three- and 10-gallon sizes, but those are hard to find and usually cost more than the five-gallon size. Corny kegs are popular because they're stainless steel, have a convenient capacity, are readily available, and are easy to handle and clean. Also, replacement parts are inexpensive. Used kegs cost in the neighborhood of $35, while new kegs sell for about $90.

How Do Soda Kegs Work?

A Corny keg is a stainless-steel pressure tank with two fittings at the top end, one marked "in," the other marked "out." A pressurized CO_2 line is connected to the "in" fitting to carbonate and dispense the keg contents. A flexible dispensing line (with picnic or "cobra" tap) is connected to the "out" fitting. Inside the keg a stainless dip tube connects to the "out" fitting and extends to the bottom of the keg. When you pressurize the keg with CO_2 and open the picnic tap, beer is forced up the dip tube, through the "out" fitting, into your tap line, then into your glass.

To fill the keg and to clean it after use, the top end has an oval hand hole in it. This opening is sealed with a removable hatch plate held in place with a steel bail. A rubber o-ring is used to seal the inside rim of the hole. (If you purchase a used keg replace the ring; it could smell like soda pop or whatever the keg held previosly.) When the keg is pressurized, the cover plate is pushed outward, squeezing the o-ring between it and the keg.

Carbon dioxide is the heart of the system. High-pressure bottles similar to scuba tanks are filled with CO_2 gas at soft-drink distributors and fire extinguisher equipment shops. To get a lot of gas in a small tank, the CO_2 is pressurized at 400 to 800 pounds per square inch (psi) or more, depending on bottle size. Carbonation and dispensing only take 30 psi or less, so tank pressure has to be lowered before it can be introduced into the soda keg.

To reduce the gas pressure a regulator is connected directly to the CO_2 tank. This is the same technology found on any barbecue grill. With CO_2 you set the desired pressure using a screw on the regulator and read the pressure using the regulator gauge. To dispense beer the pressure is set between 10 and 30 psi. The best setting will depend on the keg's inside diameter and length of the dispensing tube and the carbonation level of the beer being dispensed.

What Do I Need, What Does It Cost?

For a complete draft homebrew system, you'll need:

1. At least one soda keg (pin or ball lock)
2. CO_2 tank
3. One- or two-gauge regulator
4. Gas tubing (three or four feet)
5. Gas quick-disconnect (pin or ball lock to match the soda keg)
6. Dispense tubing with picnic tap (three or four feet)
7. Beverage quick-disconnect (pin or ball lock to match soda keg)

Kegging kits are sold at well-equipped supply shops or by mail from dozens of suppliers. You'll be given at least four options: tank size, single- or dual-gauge regulator, a regulator cage, and ball- or pin-lock canisters.

First, consider the CO_2 tank size, given in pounds. The smallest common size is the 2.5-pound bottle, which is very small, lightweight, and affords mobility. The drawback is that it needs to be refilled often.

Other common tank sizes are five pounds, 10 pounds, and 20 pounds. Because you'll pay a flat fill charge regardless of bottle size, the larger the bottle, the cheaper the gas. My supplier charges $7 to fill my 2.5-pound tank and about $13 to fill the 10-pound tank: four times the gas for less than twice the price. New five-pound tanks are about $80, 10-pound bottles and refurbished 20-pound ones about $100.

Next, you must choose a single-gauge or dual-gauge regulator. Both display the pressure of the regulated, low-pressure side of the system, but the dual-gauge units also display tank pressure. Without knowing the tank pressure you won't know when it's getting empty until it's too late. Dual gauge regulators aren't much more, so you may want to pay for the extra convenience. Cost: about $50.

A third option is a regulator cage. This is just a steel wire "rollbar" for your regulator gauges. When your CO_2 tank tips over and hits regulator-first, you're guaranteed some regulator damage. To prevent this either buy a cage or plan to keep your CO_2 bottle strapped to something at all times. Cages cost between $10 and $18, depending on quality and source.

Finally, when selecting soda canisters you may have the choice of ball-lock or pin-lock type. A "quick disconnect" is a plastic or metal fitting attached to both the gas and beverage lines used to get CO_2 into and beer out of the keg. The quick disconnect just lets you, well, quickly disconnect those lines from the keg. A spring-loaded ring that forces three steel balls into a

groove on the keg fitting holds the quick disconnects for ball locks on the keg. This works like the air-hose fittings at service stations.

With the pin-lock canister, small steel pins protrude from the keg fittings. Pin-lock quick disconnects have matching slots in them — you push the quick disconnects onto the keg fittings, then turn them so the pins hold the quick disconnect in place. If you're familiar with coaxial data cables, it works like a BNC connector. It's hard to say if one keg type is better than the other, but ball-lock fittings seem to be more common.

The gas-line assembly needed to get CO_2 from the regulator into the keg costs about $15, as does the beverage picnic tap and tubing assembly. Total system cost: about $200. Because your soda kegs are stainless steel and will be used under pressure, iodophor sanitizer is recommended over chlorine bleach. A quart of iodophor costs $10 to $15 and should last the busiest brewer a long, long time.

Preparing the Keg

For your first kegged beer brew as you always do, up to the point where you would normally rack to the bottling bucket. Instead, rack into a clean, sanitized Corny keg.

There are as many different procedures here as there are brewers. One very simple kegging method that works well is to prepare the keg well in advance of kegging day, leaving only a final rinse and sanitation to perform at racking time. Here are the preliminary steps:

1. Prior to the first use of your keg, remove the lid by pulling up on the bail and allowing the lid to lower into the keg far enough to tip and turn it so it can be removed. The lid's design allows the internal keg pressure to force the lid outward against the inside rim of the keg opening, squeezing the large o-ring seal tight.

2. Remove the o-ring from the lid, and wash the two parts in hot, soapy water. Ensure that the pressure-release valve can be manually opened easily, and when rinsing the cap, let clean water flow through the opened relief valve. The relief valve will open and release internal keg pressure if the pressure gets near the rated working limit of the keg (about 100 psi).

3. Using a deep socket wrench, box wrench, or adjustable pliers, remove both the "in" and "out" fitting on the keg. The gas "in" fittings will have a 12-point shoulder on it, the beverage

Brew as you always do, up to the point where you would normally rack to the bottling bucket. Instead, rack into a clean, sanitized Corny keg.

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RECIPES #4

AMERICAN AMBER ALE

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1 x 3.3lb can EDME Microbrewery Series LIGHT Malt Extract
1.3lb Light Dried Malt Extract
2 oz Chocolate Malt
4 oz Crystal Malt
8 oz Pale Malt
2 oz Northern Brewer Hop Pellets
1 packet EDME Active Dried Yeast

For 5 gallons: Crack the grain malt, place in a mesh bag & steep in 2 quarts of hot water for 20 minutes.
Remove grains & add enough water to make 2 gallons.
Bring to a boil & add the dried malt extract, the Microbrewery Series LIGHT extract & 1 oz of hop pellets.
At 30 minutes of boiling, add 1/2 oz of hop pellets.
At 50 minutes, add the last 1/2 oz of hop pellets to the boiling pot.
After 60 minutes, add the contents of the boiling pot to 3 gallons of cold water in the primary fermenter to make up to 5 gallons.
Cool to 65/75°F.
Rehydrate the EDME Active Dried Yeast in 1/4 cup of boiled water cooled to 98/107°F. Wait for 15 minutes – stir & pitch the yeast.
Ferment for 5 days & rack to a carboy. Allow to rest 5 – 10 more days then prime & bottle.
Condition at 35°F for at least 2 weeks.

OG: 1.043 – 4

SPECIAL HONEY BOCK

A rich intoxicating beer with a strong malt nose & a hint of cinnamon. Not for the fainthearted!

Ingredients:
8lb EDME Microbrewery Series DARK Unhopped Malt Extract
2lb Clover 100% Honey
8 oz 60L Crystal Malt
2 oz Northern Brewer Hop Pellets
1 teaspoon Ground cinnamon
1 packet EDME Active Dried Yeast

For 5 gallons: Crack the grain malt, place in a mesh bag & steep in 2 quarts of hot water for 20 minutes.
Remove grains & add enough water to make 2 gallons.
Start a 60 minute boil & add the Microbrewery Series DARK malt extract, honey, 1 oz hops & ground cinnamon.
At 30 minutes add 1/2 oz hop pellets.
At 50 minutes add 1/2 oz hop pellets.
After 60 minutes, add the contents of the boiling pot to 3 gallons of cold water in the prrimary fermenter to make up to 5 gallons.
Cool to 65/75°F.
Rehydrate the EDME Active Dried Yeast in 1/4 cup of boiled water cooled to 98/107°F. Wait for 15 minutes, stir & pitch the yeast.
Ferment for 5 days & rack to a carboy.
Allow to rest 5 – 10 more days then prime & bottle.
Condition at 35°F for at least 3 weeks.

OG: 1.076

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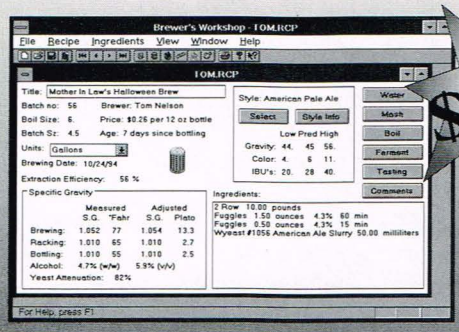

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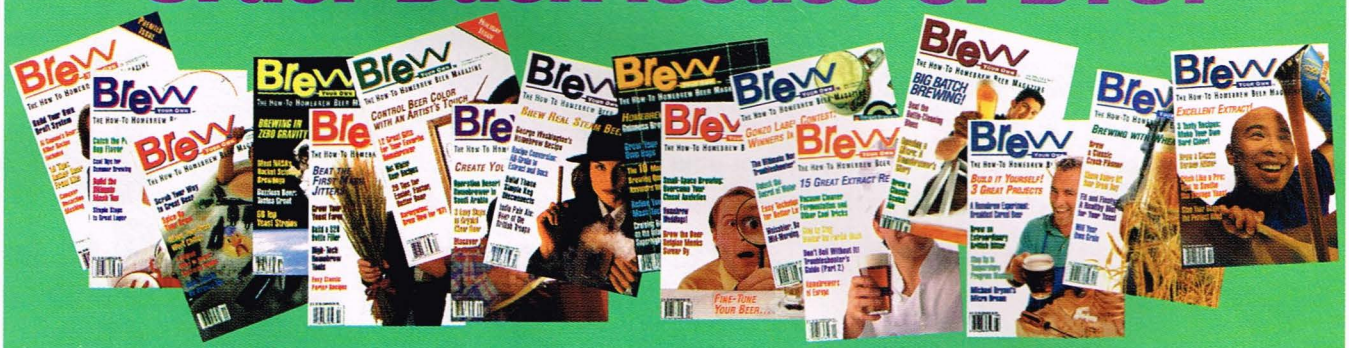

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"out" shoulder will look like a normal hex-head nut. Remove the fittings without rounding off the corners or slipping up onto the valve body. Don't grip the smooth cylindrical portion of the valve body to remove or replace it.

4. After the fittings are removed, pull the gas and dip tubes from the keg and clean them. Inspect the seals found under the end lip at the top of each tube for damage. Look for syrup residue, corrosion, and anything you don't want to contact the beer. Hot, soapy water should be enough to remove anything — don't use any abrasives on the parts. Damaged seals can be replaced with parts from supply shops or ordered by mail.

5. After rinsing the parts, reassemble everything. Put the "in" valve on the "in" side of the keg with the short tube and the "out" valve on the "out" side of the keg with the long tube. Tighten the fittings firmly, but don't be brutal about it.

6. Dissolve two teaspoons of dishwasher detergent in two quarts of very hot tap water, then pour it into the keg and replace the keg cover plate (with o-ring). Shake the keg repeatedly.

7. With the keg upright, pull the relief-valve ring on the cover plate, remove the cover, pour out the contents, and add a few quarts of hot rinse water. Replace the cover, thoroughly shake the keg, pour out, and repeat.

Let's Get Kegging

When the preliminary cleaning is complete, the keg can be stored until needed. When you're ready to keg your beer, remember: Avoid aeration. Make sure you have a racking cane and enough tubing to reach from the bottom of the fermenter to the bottom of the keg. This will help you avoid splashing. Enough CO_2 will come out of the beer to provide a protective blanket during the transfer.

Before starting, sanitize the keg with an iodophor solution mixed according to the directions on the iodophor bottle. You don't need to fill the five-gallon keg with solution; just mix a quart or two in the keg, seal it, and agitate for a few minutes. Drain the solution into another container for sanitizing the racking cane, tubing, and keg cover. Put the keg upside down in a pan or in the sink to continue draining while you sanitize your racking tube.

When you're ready to start, set the keg upright on the floor with the fermenter above it on the countertop or on a stool. Begin a siphon from the fermenter as you normally do, and quickly lower the tubing outlet into the bottom of the keg. Once the beer level in the keg is above the end of the tubing, splashing and aeration won't be a problem.

When the siphon is complete, remove the racking tube from the keg and replace the sanitized keg lid. Before pushing down the bail on the lid, pull upward on the bail lightly with a twisting motion of the wrist. This ensures the lid is seated properly in position. Then close down the bail.

You can now purge the remaining

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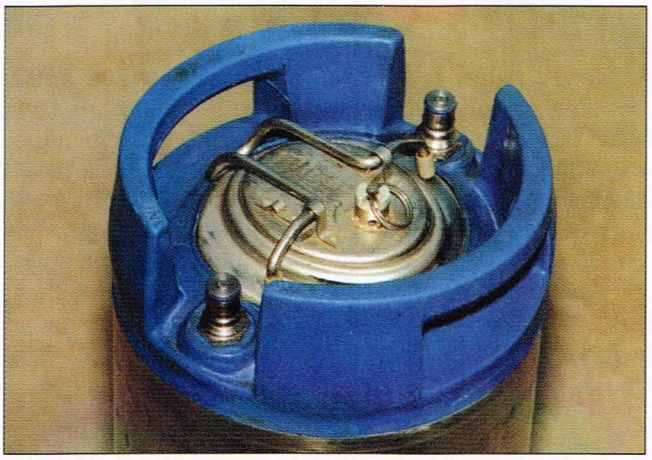

A quick tug and a twist of the wrist before pushing down the bail will seat the lid and o-ring firmly against the keg.

air in the keg headspace by pumping CO_2 into the "in" fitting while you hold open the pressure relief valve. Open the CO_2 tank valve, and set your regulator pressure to 20 to 30 psi. With ball-lock systems the gas tubing coming off the regulator is fitted with a gray quick disconnect. Lock this fitting onto the "in" valve of your keg by pulling upward on the plastic locking ring at the bottom of the disconnect. Push the disconnect down over the "in" valve and release the locking ring.

If you don't hear gas flow into the keg, check the valve at the regulator (where the tubing meets the regulator body). The valve is closed if at right angles to the tubing, open if it's in line with the tubing. Open it.

Immediately open the pressure relief valve on the keg lid and release the pressure. Hold it open, allowing the gas to escape for about 30 to 40 seconds, or longer if you have a lot of headspace in the keg. Release the relief-valve ring, and pressurize the tank. You'll hear the gas flow into the keg, then eventually stop.

When flow stops, agitate the tank by rocking it. This will force the CO_2 into solution, and more CO_2 will flow into the keg. Continue this process for a few minutes, then remove the gray gas disconnect from the "in" fitting. Turn off the CO_2 tank valve, and put your keg in the fridge or the coldest location you have.

After the keg and contents have cooled, you'll have to add more CO_2. If you can leave the CO_2 tank connected to the beer keg while the keg is in the cooler, set your regulator to 15 psi and leave it connected, under pressure, to the keg. Agitation of the keg will speed the process, and after about one to two days you can connect the picnic tap and pull a cold one.

Your dispense tubing will have a picnic tap on one end and a black beverage disconnect on the other. The beverage fitting looks like the gray disconnect but fits over the "out" valve of the keg. Connect it as you did the gas

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disconnect and with the keg upright, fill a glass. Here's a mnemonic to help: "Gray = gas, black = beer."

Fine Tuning

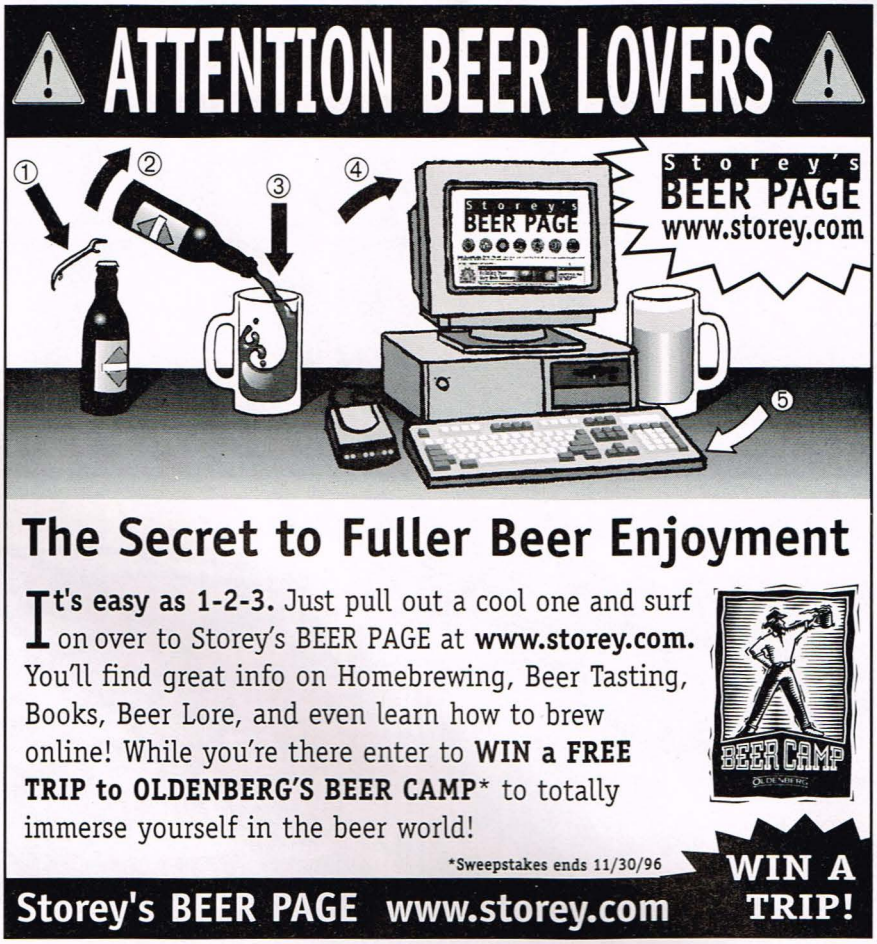
How well the beer dispenses depends on keg pressure, level of carbonation, length and inside diameter of your beer tubing, and so on. Excessive foaming is often due to too much pressure and can be aggravated if you don't fully depress the picnic-tap lever.

You can reduce the pressure in the keg using the pressure-relief valve, but 15 psi is a good starting point. If you remove the gas (gray) disconnect from the keg while dispensing, the keg pressure will drop rapidly with each glass of beer dispensed. You can leave the gas line off the keg, and recharge it only when the pour is too slow.

There are a couple of tips to getting beautifully clear beer with a keg system. If you allow enough time in the secondary and rack carefully, the beer should already be quite clear. But if you have a spare keg, you can cold condition the ale in the first keg for several weeks, then rack it to a second sanitized dispensing keg. During cold conditioning a lot of yeast will continue to drop out of the beer, leaving it crystal clear.

Another technique is to prepare the keg by removing the "out" fitting and pulling the dip tube from the keg. With a small pipe cutter or hacksaw, remove the bottom 1/2-inch or more of the dip tube. Remove any sharp edges with a file or sander, wash the dip tube, and reassemble the keg. The dip tube will no longer reach to the very bottom of the keg, preventing sediment from getting picked up during dispensing. This works especially well if you use gelatin or isinglass finings prior to cold conditioning. The sediment will "pack" tightly at the bottom of the keg.

Those are the basics. Once you master them you might want to build a draft box so you can serve cold beer from your keg without devoting a refrigerator to the task (see "Homebrew to Go," August '96 BYO). The joy of serving real draft beer at home is hard to describe, but with the time savings and convenience, you've got an excellent combination.



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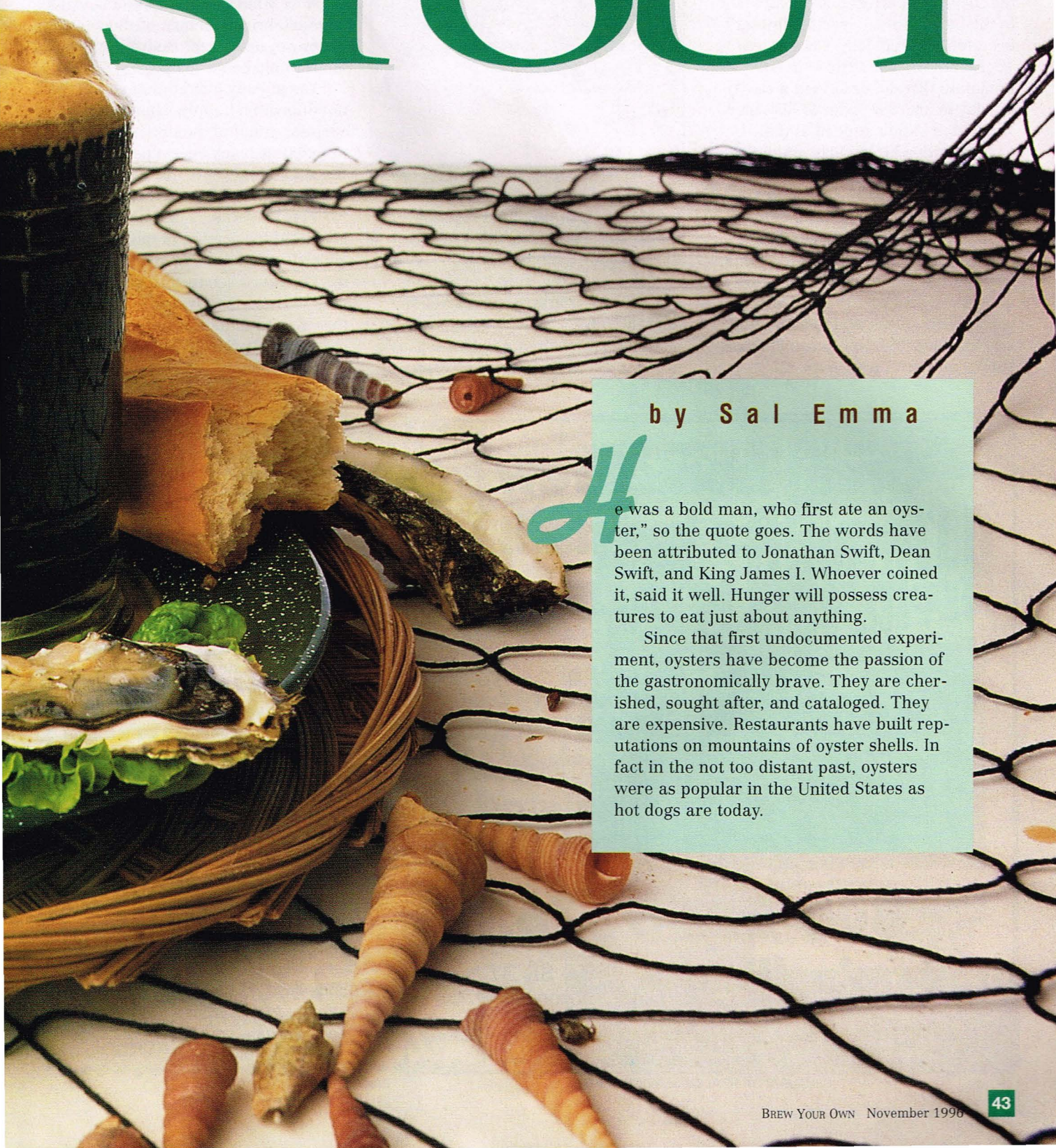
TODD HAMMOND

OYSTERS AND STOUT



by Sal Emma

"He was a bold man, who first ate an oyster," so the quote goes. The words have been attributed to Jonathan Swift, Dean Swift, and King James I. Whoever coined it, said it well. Hunger will possess creatures to eat just about anything.

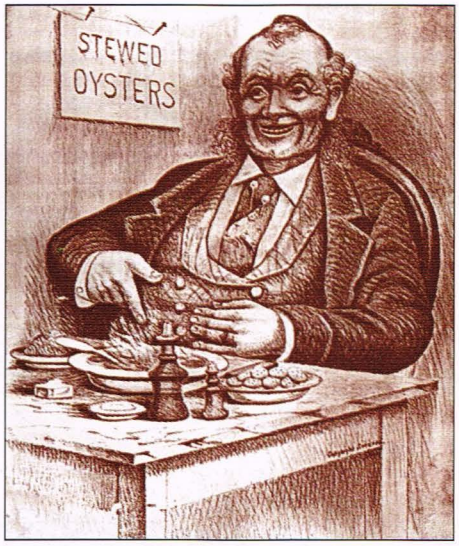
Since that first undocumented experiment, oysters have become the passion of the gastronomically brave. They are cherished, sought after, and cataloged. They are expensive. Restaurants have built reputations on mountains of oyster shells. In fact in the not too distant past, oysters were as popular in the United States as hot dogs are today.

They have become the food of the rich and famous. And more than one historian has suggested that oysters have aphrodisiac qualities, when consumed by humans.

A lesser-known backwater of oyster lore relates to beer. It seems that over the years, beer drinkers, brewers, and marketers have discovered that beer is a perfect accompaniment to the little bivalve. Specifically, dark beer. More specifically, stout.

Former British Prime Minister Benjamin Disraeli described a satisfying day in an 1837 letter to his sister: "I dined or rather supped at the Carlton with a large party of the flower of our side, off oysters, Guinness and broiled bones, and got to bed at half-past twelve. Thus ended the most remarkable day hitherto of my life."

Irish dry stout is the match-made-in-heaven perfect beverage pairing with raw oysters. A few theories have sprouted in an attempt to explain this cozy relationship. One possibility is a simple matter of proximity. They eat a lot of oysters in Ireland, especially on the West Coast. Galway is famous for its oysters and the inhabitants' capacity to consume the shell-bound gems. In fact each year in late summer and early autumn, Ireland's competing stout mills, Guinness and Murphy's, sponsor oyster festivals in Galway.



Take yourself back a hundred years or so, before this oyster and stout idea became a fashionable marketing phenomenon. You have settled in at your favorite Galway oyster house, preparing to down a bushel or two of your favorite bivalve. You're in the mood for champagne, but your money pouch dictates you stick to beer.

Now, what do you suppose the waiter would bring this turn-of-the-century Galway oyster eater? Budweiser? Not. Stout would be more likely.

You silently lament that you could not afford the bubbly. Then to your surprise you find the dry, roasty, pleasantly bitter black beer a perfect foil for the silky, salty, tender oyster.

A match made in heaven was born.

This rendition is probably a romanticized version of the real story, which carried a dateline of London, not Galway. It seems that just as dark beer became the favorite of London's theatre district porters, so too were oysters a favorite food of this group of burly stevedores. The reason: Oysters were dirt cheap. Dozens of oysters, bushels even, could be had for mere shillings in those days. Cheap grub, cheap suds. A cheap meal that satisfied your palate and filled your belly. Who could ask for more?

Though the first meeting of dark beer and oysters has faded in history, the combination continues to garner a fair amount of press in today's world. Part of what has kept the lore of oysters and beer going is the short-lived experiment of adding oysters, oyster shells, and oyster liquor to the brew kettle — a practice that was almost common in post-war England (for nutritional reasons, not gastronomic).

So was it courage, intrigue, or maybe a little too much product sampling that possessed the first brewer to dump some oysters into the brew kettle? Probably none of the above.

Some beer historians theorize that crushed oyster shells would have acted as a natural fining to clear beer in the days before filtration. Others guess that because oysters and stout went together so well, the brewers of oyster stout added oysters to the brew in an attempt to capture the good qualities of both. Perhaps beer writer Michael Jackson hit the nail on the head when

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About Oysters

If you have never been to a bona fide oyster bar, treat yourself. Take out a bank loan and go for broke.

It can be very confusing. The menu is a seemingly endless list of names and varieties. Blue Point, Belons, Bretons, Pacifics, and more. The names refer mainly to the geographic area from which the oysters were harvested. They vary in size and species, texture and flavor. It can be quite daunting to the uninitiated, but be patient and ask the waitstaff for help. You will do fine.

And what about this "r-month" business? Oysters can be eaten year-round, but they spawn in warmer months and spawning makes them thinner, more watery and less flavorful. The rule of thumb is to eat oysters in months containing the letter "r." September through April, in other words. Of course, seasons vary from region to region.

You can get sick from eating raw oysters. But the odds are in your favor. Sure, you can take the safe road and avoid them completely to avoid the possibility of getting sick. But this is akin to staying in your house to keep from being struck by lightning. They are worth the risk.

But if you regularly eat raw seafood and are really, really paranoid, you might want to consider a hepatitis-A vaccine available from your family physician. And infection-control experts recommend against giving raw seafood to children, who are more susceptible to complications of infection.

Ask your oyster dealer where the oysters came from and when they were picked. Buy oysters only at reputable restaurants or from licensed dealers. Ask to see the ID tag that came with the oysters. Federal law mandates that the source and date of harvest be documented through a regulated system of fishermen and registered dealers.

Experts agree: the best way to eat oysters is raw, on the half-shell. A squeeze of lemon is the purist's most extravagant accompaniment. No hot sauce, cocktail sauce or other strong-flavored topping is required.

If you insist on cooking your oysters, they should be lightly steamed for only a minute or two. They will toughen up very quickly after more than that and dissolve completely if the cooking time is extended.

Enjoy them, if you can afford them!

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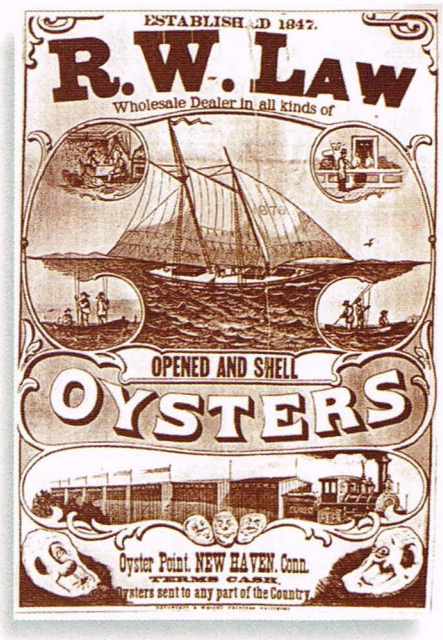

he suggested that oyster stout was the product of brewers competing to make their products appear more nutritious and healthful, in the same spirit that created milk stout and oatmeal stout.

Whatever the reason, oyster stout was made in England and its Channel Islands until recent years. It went unproduced for several decades, save an occasional experiment by brewpubs, but has recently seen a revival by at least two British Isles producers: Marston's of England and Murphy's of Ireland. Marston's has no oysters in it. Murphy's apparently has some extract of Irish West Coast oysters, but not enough to create much of a fishy or oyster flavor in the final beer.

But just what is oyster stout? Again, there is more than one theory. The first claims that some portion of the stout itself actually contains oysters. Less adventurous brewers — or perhaps those with greater compassion for their customers — say oyster stout is a serving suggestion: what to drink it with, not what's been added.

That's the opinion of Fal Allen, head brewer at Pike Place Brewery in Seattle. Several years back the idea of putting oysters in a batch of stout — for whatever reason — would not go away at Pike Place. Something had to be done about it, so they experimented with a batch or two of oyster stout.

"I won't tell you about the first attempts. The one we ended up serving was made with fresh oyster liquor, the juice that runs from the freshly shucked oyster. We added about a sixth of the total volume," Allen recalls.

"In the kettle it smelled rather nice. Sort of like oyster stew. But in the fermenter it was another story. Very oystery and fishy and not necessarily pleasant. It met with limited success. Some of our patrons really liked it, Michael Jackson among them. Our owner really loved it," Allen says.

But even with that vote of confidence, the experiment has not been repeated. "I feel the same way about oysters and beer as I do fruit and beer. I love oysters," Allen says. "And I love beer. But I do not think they should be served in the same glass."

Allen admits that even though he was not crazy about it, oyster stout would probably sell if it were a

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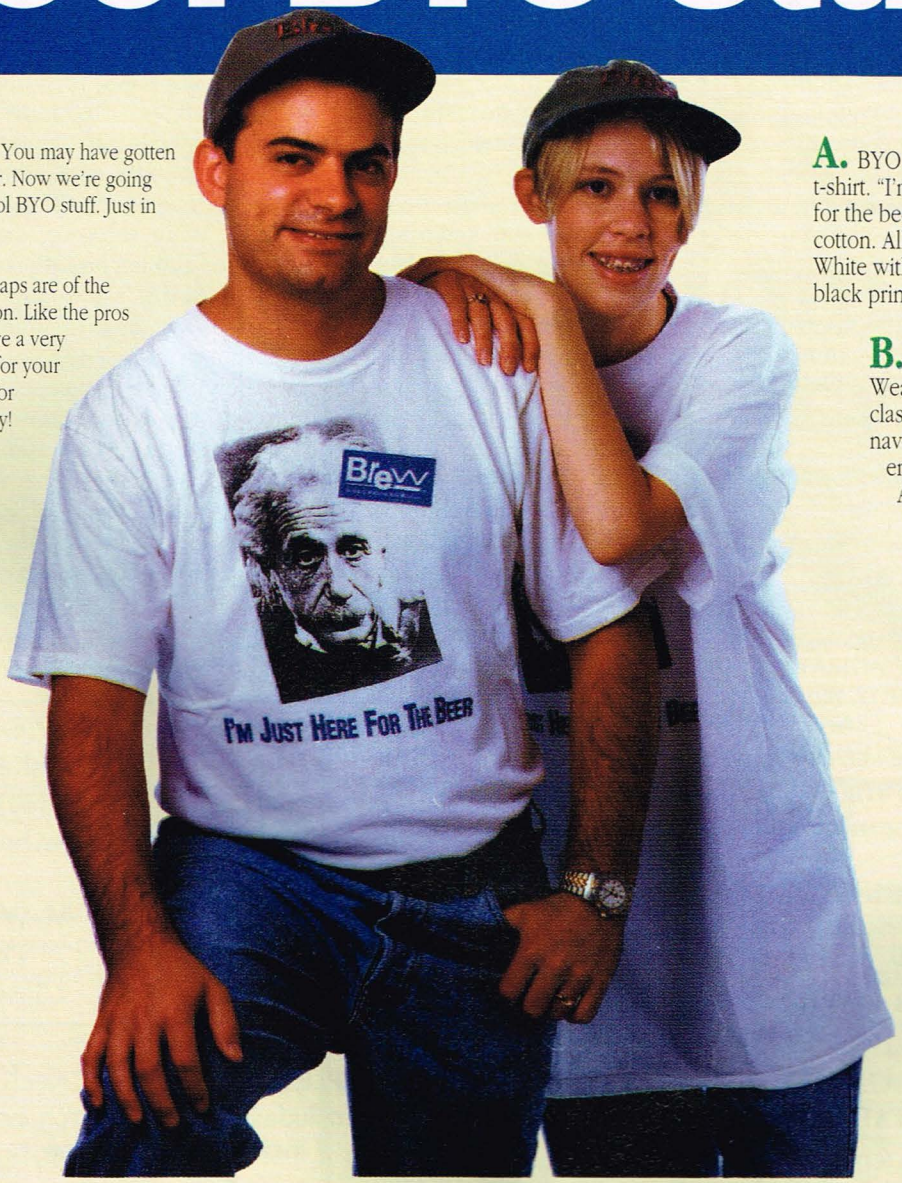

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This is a food recipe, not a beer recipe. The nice thing about it is that you can make this one even if you live in a place with no reliable source of fresh, live oysters.

So far as we know, this soup did not exist before Labor Day, 1996, when it was invented in the kitchen of BYO contributor Sal Emma:

Black and White Stout Oyster Soup
(serves four)

Ingredients:

- 1 medium red onion, diced
- 3 cloves garlic, peeled and chopped
- 3 slices bacon
- 2 Tbls. butter
- 2 Tbls. fresh, chopped parsley
- 1 Tbls. flour
- 1 bottle of your favorite stout
- 4 Tbls. Worcestershire sauce
- 1 cup water
- 1 tsp. sugar
- 1 pint freshly shucked oysters and liquor (or one 8-oz. can whole oysters)
- 4 tsps. sour cream
- More fresh, chopped parsley
- Fresh cracked black pepper

Step by Step:

Fry the bacon on medium heat until it is crisp. Remove and set aside. Add to the pan the butter, diced onion, garlic, and parsley. Saute over medium heat until onions are soft, about 15 minutes. Increase heat and add flour. Cook another 2 minutes, stirring constantly. It will get very stiff and hard to stir. This is normal.

Add stout, water, Worcestershire, and sugar. Bring to the boil, then reduce heat to a moderate simmer. Simmer 20 or 30 minutes, until the broth begins to thicken.

While the soup is simmering, chop the bacon into small pieces.

At the last minute add oysters. Cook two or three minutes and serve immediately. In the center of each bowl, float a teaspoon of sour cream. In the bowls, top with the bacon, fresh black pepper, and parsley.

This dish will blow minds. It is so dark that it looks almost black. The white sour cream sitting in the center of the bowl makes for a very dramatic — and tasty — presentation.

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The Taste-Off

The test: to determine which stout best accompanies shellfish.

The stouts: Guinness Draught, Sierra Nevada, Murphy's Draught, Harpoon, and Samuel Smith's Oatmeal Stout.

The tasters: Beth Coleman, chef and caterer; Paul Curreri, beer lover, oyster lover; and yours truly.

The winner: Sierra Nevada. We liked Guinness, but there was a liveliness and complexity in the Sierra Nevada that was even more dramatic and satisfying with the briny bivalves. It was "pleasantly bitter; refreshing; an excellent palate cleanser."

Guinness was second. The maltiness of the Guinness Draught was a perfect balance to the zesty saltiness of the raw shellfish. And Guinness' assertive bitterness balanced the sweetness of the shellfish.

Tied for third place were Sam Smith's and Harpoon. Smith's is really a sweet stout and was placed in the lineup to see how sweet stout would stand up to the raw seafood. It fared very well, though the panel preferred the drier versions. Harpoon was unlike any of the other dry stouts but complex enough to do well.

Murphy's was roundly panned. Although Murphy's is a very smooth and drinkable stout on its own, it paled with the raw shellfish and in comparision with the other stouts. Less assertively hopped than the other entries and with a lower level of carbonation, lacking any CO_2 "bite," the bright freshness of the shellfish effectively steam-rolled Murphy's on taste.

Lessons: To make stout to serve with oysters, hop assertively and crank up the specialty grains. Don't be afraid to jack up the intensity. Go for complexity, not smoothness. Your oyster/ stout pairings will be highly praised!

— Sal Emma

regular offering at the Pike Place tap. "The problem is we would need separate tanks and lines. I don't think routine cleaning techniques would remove the oyster residue in the equipment."

Allen's advice: "Drink beer when you eat oysters, but don't mix them together! If you want to make Oyster Stout, follow Marston's lead and leave out the oysters."

If You Insist

If you insist on adding sea creatures to your stout when you brew, you will probably do well with a pint of freshly shucked oysters in their liquor. The oysters will simply dissolve in the kettle. Do not use canned oysters, which contain a lot of added salt as preservative, and do not add more than a quart for a five-gallon batch. Be careful. And don't say we didn't warn you!

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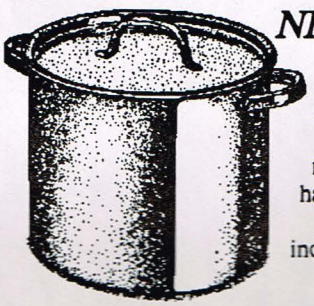

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16th Century

Homebrewers

by Diana K. McLean

PAUL HAYASHI PHOTOGRAPHY

Brewing takes on a historical flavor for members of the Mag Mor Brewers Guild, a branch of the Society for Creative Anachronism. Members of the SCA adopt personas, or characters, from the 16th century and earlier and re-create many aspects of the Middle Ages. The brewers bring to life medieval methods of brewing beer and other alcoholic beverages, such as liqueurs and mead.

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CIRCLE 58 ON READER SERVICE CARD

The 100 members of the Barony of Mag Mor, the anachronists' guild in Lincoln, Neb., gather at least once a month for combat, cooking, armoring, metalwork, and calligraphy.

A dozen of the members pursue another specialty: brewing. They get together to brew, share information, and plan events or competitions involving brewing. The brewers' guild includes men and women from many backgrounds. Two things they have in common are their love of history and brewing.

Among other anachronists in the Kingdom of Caltonir (a four-state area including Nebraska), Mag Mor holds a reputation for brewing prowess. Recently, the King of Caltonir called upon Mag Mor's brewers to create a special beer to be awarded as a prize in a week-long "war" held at a lake in Missouri.

EVELYN ROMANS

Mag Mor Brewers Nick Lind, Rob Buchanan, Mike Munson, and Jim Lafler transport beer with an ale cart.

Meet the Brewers

Tim Hintsala, known in the SCA as Angus John MacLeod, founded the brewers' guild of Mag Mor in 1993 with help from another member, Kevin Costello. A member of the SCA since 1986, Hintsala moved to Lincoln from Houghton, Mich., where he had participated in the local brewing guild since 1990. He was still interested in brewing and found that several other members of Mag Mor were, too. But there was no organization when he arrived, so he put together meetings and helped the group get started.

Hintsala is known for his Bloody Angus beer. It was originally planned as a dark stout, to be called the Black Angus. "When it was put in a carboy it was nearly black, but after the sediment settled, the beer was a dark red," he recalls. Another brewer in the group dubbed it the Bloody Angus. The name stuck, and the Bloody Angus is now Hintsala's most well-known beer.

Jim Lafler, 31, has been in the SCA for three years and has been brewing since he joined the society. He likes the experimental nature of the brewers' guild, which doesn't stick to established methods outlined in such homebrewing texts as Charlie Papazian's *The New Complete Joy of Home Brewing*. "The SCA is a treasure trove of brewers who are willing to step outside of Papazian's rules and try new things," he says.

Lafler prefers making fruit beers but says he brews mostly nut brown ales because they are his favorite to drink.

Nick Lind is a recent college graduate with a history degree. He has been brewing with the SCA for about two years. Although Lind brews

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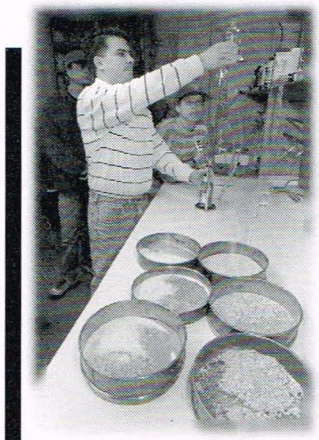

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a lot of beer, he is perhaps best known locally for making Atholl Brose, a Scottish drink from the 1300s. It is made with oatmeal, scotch, and honey. He also makes mead and liqueurs. His wife, Vikki, has been

JM's Nut Brown Ale
(extract, 5 gallons)

I love Samuel Smith's Nut Brown Ale, and this is as close as I have come without actually trying to ferment in a slate fermenting bin. It is darker and slightly hoppier than SSNBA, but it is truly the best homebrewed nut brown I have ever tried. I can never make enough.

Ingredients:

- 4 lbs. pale malt extract (Alexander's Sun Country)
- 2.2 lbs. (can) of Morgan's Specialty Grain malt extract, dark crystal
- 1 oz. Fuggles whole leaf hops (4.5% alpha acid), for 60 min.
- 1 oz. Cascade whole leaf hops (5.5% alpha), 0.5 oz. for 30 min., 0.5 oz. for 10 min.
- 2 tsp. gypsum (as needed)
- 1/2 tsp. Irish moss
- Muntons ale yeast
- 3/4 cup corn sugar for priming

Step by Step:

Bring malts, gypsum (optional), and Fuggle hops to a boil in 1.5 gals. of water.

Boil 30 minutes and add the 0.5 oz. Cascade hops. Boil 20 minutes and add 0.5 oz. Cascade hops and Irish moss. Boil 10 minutes more for a total boil of 60 minutes.

Cool rapidly to pitching temperature, sparge well, and pitch with rehydrated ale yeast. Let primary ferment for at least 10 days, then rack and bottle with bottling sugar. Let age for at least 30 days.

— James Lafler
Lincoln, Neb.

JM's Peach Ginger Lager
(grain and extract, 5 gallons)

This is a light yet full-flavored, effervescent lager, which is great for hot summer nights. The ginger adds a dry, crisp flavor to the beer, and the peaches add a refreshing finish.

Ingredients:

- 4 lbs. Muntons light dry malt extract
- 2 lbs. clover honey
- 1/3 lb. crystal malt
- 5 lbs. fresh or frozen peaches
- 2 oz. grated fresh ginger
- 1.75 oz. Cascade whole leaf hops (5.5% alpha acid), 1 oz. for 60 min., 0.5 oz. for 30 min., 0.25 oz. for 3 min.
- 1 tsp. gypsum (as needed)
- 1/2 tsp. Irish moss
- Dry lager yeast
- 1.25 cups dry malt extract for bottling

Step by Step:

Grind crystal malt, add it to 1.5 gals. of water with peaches, and bring very slowly to a boil (40 minutes). Remove from heat and sparge with 0.5 gal. boiling water. Be sure to really squeeze or press as much juice from peaches as possible. Add malt extract, gypsum (optional), ginger (hop boiling bag highly recommended), and 1 oz. Cascade hops and boil for 30 minutes. Add the 0.5 oz. Cascade hops and boil 15 more minutes. Add Irish moss and honey and boil 12 more minutes. Add 0.25 oz. hops and boil three more minutes for a total boil of 60 minutes.

Sparge well, being sure to remove all of the strings of ginger, and cool rapidly to pitching temperature. Pitch with rehydrated lager yeast and leave in primary fermenter for 10 to 14 days. Rack and leave in secondary fermenter for 10 more days. Bottle with dry malt extract and let age for 30 days.

An optional trick is to boil 1 lb. of peaches for five minutes in one-quarter gallon of water, sparge well, and add to bottling bucket to give beer that extra peach aroma.

— James Lafler
Lincoln, Neb.

CIRCLE 45 ON READER SERVICE CARD

CIRCLE 47 ON READER SERVICE CARD

brewing for the last year. She focuses primarily on liqueurs.

Other members focus on wine, mead, and other specialties.

How They Brew

Although not everything they brew is period (documentable as something that could have been made before 1600), primarily because they use some modern techniques and ingredients, Mag Mor brewers try to stay as true to Middle Ages methods as possible. For example they learn to brew without many of the scientific tools available to today's homebrewers.

Guild members "know by touch when the wort is the right temperature to pitch the yeast" instead of relying on a thermometer, notes Lafler.

In addition brewers learn to brew through sight, taste, and smell instead of strictly following recipes. They do lose a batch once in a while, but their success rate — without modern tools and with a lot of experimentation — is 95 percent.

Learning to rely on their own instincts improves the brewing skill of members, says Hinsala. "It makes them more instinctive brewers and, in turn, makes them better brewers," he says.

"My approach to brewing competitions is to ask myself what Jean Michel (his 12th century persona) would have brewed and how he would have done it."

— James Lafler

Brewing Competitions

Members enter competitions with other SCA brewers from within and outside the area."My approach to brewing competitions is to ask myself what Jean Michel (his 12th century Norman persona) would have brewed and how he would have done it," says Lafler. He considers anything up to the 12th century fair game.

Judging is based on a 50-point scale similar to that used by the American Homebrewers Association. The main difference between competitions for AHA and SCA is the emphasis of the judging process.

Instead of placing the primary emphasis on technique and style, SCA brewing competitions put a lot of importance on the documentation a brewer has for his or her entry. Is

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there evidence that it was created during the Middle Ages, and did the brewer do as much as possible to use period materials and techniques? What did the brewer learn about brewing in the Middle Ages as a result of the project?

"Once you start looking at the documentation, you learn things that make you a better brewer," says Lafler. For example recipes from the Middle Ages have seemingly very odd ingredients. Yet the ingredients were a way of providing an important brewing element, such as starch, unavailable in the form we're used to. Medieval brewers had to experiment with what was in their environment to see what worked.

SCA brewing competitions are also much more focused on what the SCA refers to as the "ground up" quality of the entry: Did the brewer make everything from scratch? For example if you grow your own hops and malt your own barley, that earns points toward your score.

Another difference Lafler and Hintsala see between AHA and SCA brewing competitions is the level of experience of the judges. In the SCA the judges may not have a very strong brewing background themselves. While these brewers certainly try to recruit judges who are knowledgeable about brewing, it's difficult, and they often end up with judges more familiar with the SCA arts and sciences competition format than with brewing in particular. Lafler and Hintsala spoke about a growing interest among some of the brewers in becoming involved with the AHA and learning to become better judges.

All in all, the brewers clearly enjoy themselves while learning a great deal about brewing and history.

For more information about the SCA or to find the group closest to you, contact the corporate office at The Society For Creative Anachronism, Inc., P.O. Box 360789, Milpitas, CA 95036-0789. ■

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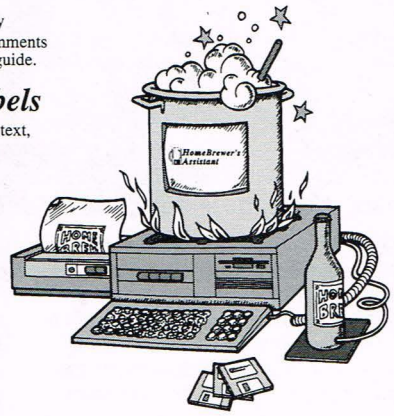

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The History of Cider 101 Professor Marmota Monax

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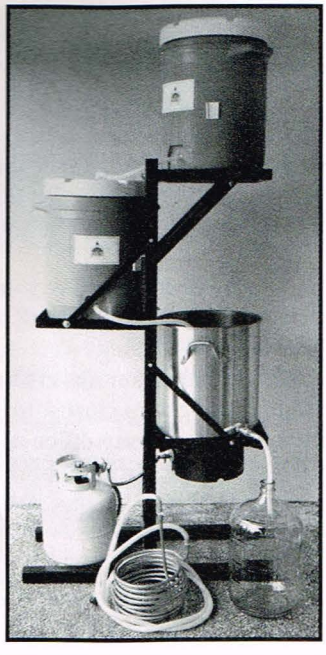

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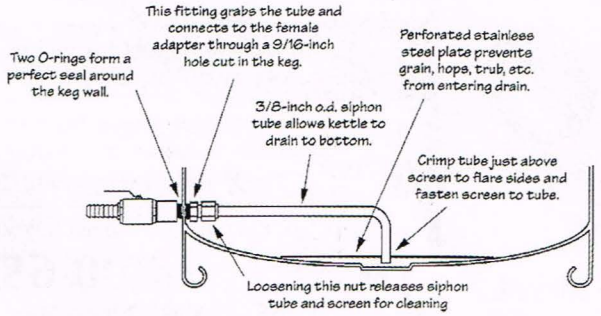


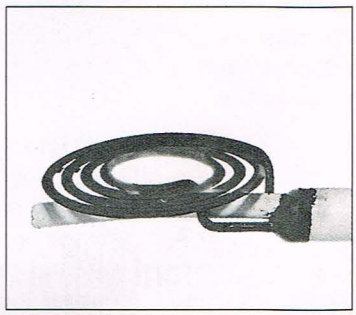
CIRCLE 62 ON READER SERVICE CARD

Build a Mash Stirrer That Might Electrocute You

This low-cost tool spreads heat evenly through the mash, giving you better temperature control. It's easy to build, but don't cut corners. The results could be shocking!

by Kenneth Ray

I have been brewing beer since 1984 and each batch was different in one way or another. The changes were made in an attempt to improve on the last brew. Several years ago I tried a couple of all-grain mashes. The use of rudimentary equipment (a light-weight kettle on an electric range) resulted in long hours of trying to hold a constant temperature and sparging with a watering can. When I compared the extra labor to the slightly improved results, I went back to extract and steeped grains that did not require mashing.

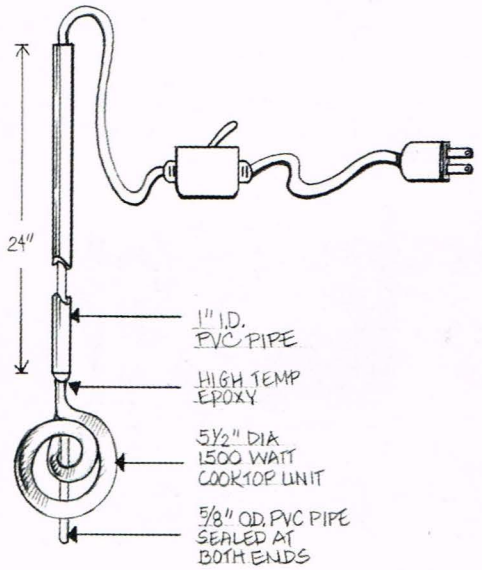


Recently I purchased an inexpensive mashing system that consisted of two plastic tanks, a rotating sparge arm, and an insulating jacket that was used on both the mash and sparge tank. I tried this system, and it works nicely. The insulating jacket is the key element because it keeps the mash temperature within six degrees for more than an hour. I have used it for the last five batches with excellent results. The brews were clearer and cleaner tasting than my previous efforts.

The one drawback to the system

is that it is a simple infusion mash with no provisions for a protein rest or a mash-off temperature rise. The problem now becomes how to add heat to a plastic tank system in a controlled and measured manner.

The solution is relatively simple. I mounted a 1,500-watt electric range element in the end of a PVC plastic



KRISTINE BYBEE ILLUSTRATIONS

pipe and have used it to stir the mash and raise the heat on my last four homebrews. The improvement in clarity was obvious. The heater is designed to operate on 220 volts, and the electrical connections must be sealed water tight. The figures show the layout and cross-section of the assembly.

Parts:

- 24-in. length PVC pipe, 1-in. inner diameter (ID), schedule 40, for the handle
- 8- to 10-in. length PVC pipe, 5/8-in. outer diameter (OD), for the standoff tube
- 5 1/2-in.-diameter 1,500-watt heating element from a discarded cook top range (a smaller element is acceptable but any larger will be awkward)
- 10-ft. length (minimum) flexible 16-gauge, three-conductor power cord (the length of the cord will vary, depending on how far your brew station is from a wall socket)
- High-temperature epoxy
- Polyester casting resin
- 4-in. by 2-in. junction box with two non-metallic connectors
- Double-pole, single-throw switch rated at eight amps or better
- Three-prong plug sized to fit your existing wall socket (15-amp or 20-amp configuration)

Putting It Together

1. Connect the heating element to the flexible power cord. From the heating element terminal there are two solid wires with screw connections. There is a ground tab welded on the outer shell of the element. Connect the two hot wires from the power cord to the two screw connections (there is no polarity problem, so it does not matter which wire attaches to which screw). Attach the green ground wire to the screw connection on the ground tab.

2. Seal both ends of the 5/8-inch OD pipe with a high-temperature epoxy. I found a muffler repair epoxy (F.W. Steel Automotive Repair Epoxy Putty) in an auto-supply store that cures hard as a rock and stays that way even when tested in an oven at 450° F. The smaller pipe protrudes one inch below the heating element to act as a standoff to prevent the element from touching the bottom of the tank.

3. Insert the heating-element assembly and standoff pipe into the one-inch ID pipe handle. Make sure the electrical connections are inside the pipe. The cord will run through the handle, and the smaller standoff pipe can terminate two or more inches inside it.

4. Tightly fill the end of the one-inch ID pipe closest to the heating element with epoxy. This seals the wires into the handle and keeps the standoff tube in place.

5. Once the epoxy has cured, pour a polyester casting resin down the pipe to completely encapsulate the electrical connections. In use the connection area is not immersed in the mash, but the casting resin will insulate and stabilize the connections as well as protect them should water be spilled down the tube.

Could It Really Electrocute You?

The heating element is designed to survive hard knocks on top of the range and the shell is insulated by a high-temperature-rated ceramic. The application is similar to that of an electrical water heater where a similar element is surrounded by water.

Because the heat transfer is so efficient, the operation of the element immersed in liquid is actually less demanding and the surface of the element is much cooler than in its normal operating mode where it sometimes gets red hot.

It is important to keep the power off when the element is not submerged. This prevents the ends that are covered by epoxy from getting too hot.

It is important to be very careful whenever you are dealing with electrical connections.

Do not tinker with your wires, switch, or heating element while the unit is plugged in. The outer shell of the element is grounded by the green ground wire so the mash can never reach any dangerous voltage level.

The wires are fully encapsulated, so there is no chance of them coming into contact with liquid. The normal failure mode of the heating element, should a failure occur, is that of an open circuit and not a short to the element's outer casing (the stirrer will stop working but will not shock the user).

6. Run the power cord from the handle to the junction box through a non-metallic connector. The length of cord between the handle and the box depends on your setup. It's handy to have the box sitting on a nearby table while the stirrer is in use.

7. Cut another length of cord to go from the junction box to the wall socket. Connect the cord to the junction box.

8. Attach a double-pole, single-throw switch to the power cords through the junction box. Inside the junction box there are four connections to the switch. Depending on the switch, they will be terminals such as screws or push-on connections. Connect the hot wires from the stirrer cord to two terminals and the hot wires on the wall-socket cord to the other two. Connect the ground wire from the stirrer cord directly to the ground wire from the wall-socket cord and insulate them. Do not break the ground in the box.

9. Connect the loose end of the wall-socket cord to a three-prong plug. The plug will have three terminals, two for the hot wires and one for the ground.

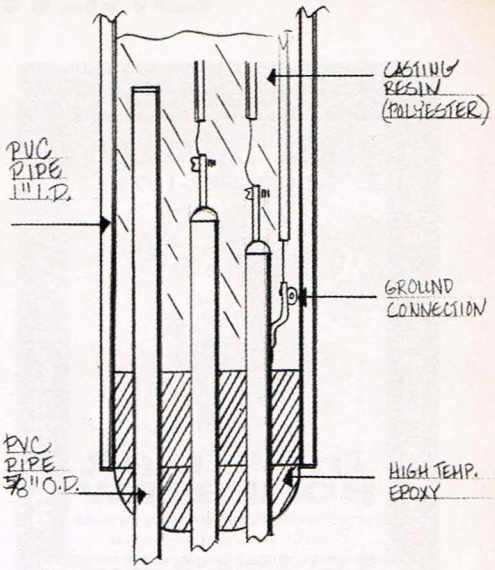
Putting it to Good Use

When it is time to raise the temperature in your mash, insert the heating element into the mash with the switch off. Turn it on and move it slowly to stir the mash during the temperature rise.

You can raise the temperature to as many rests as necessary. A typical time/temperature profile for 10 pounds of grain in three gallons of water is:

00:00 Mash in with 140° F strike water, mash is 125° F
00:30 Start temperature rise
00:40 Start mash at 156° F
02:10 Start mash-off rise
02:20 165° F

I monitor the mash temperature with a digital dial thermometer that responds instantly and reads to the nearest 0.1 degree. The heating element is kept moving slowly during the temperature rise, ensuring a consistent temperature rise and a uniform temperature throughout the mash. ■



Kenneth Ray is a retired electrical engineer and avid homebrewer.

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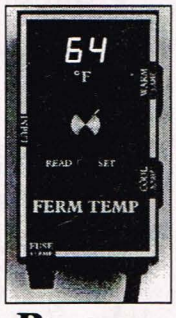

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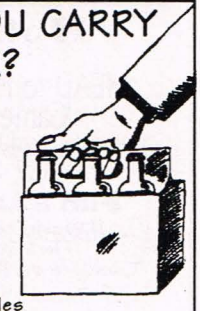

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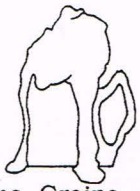

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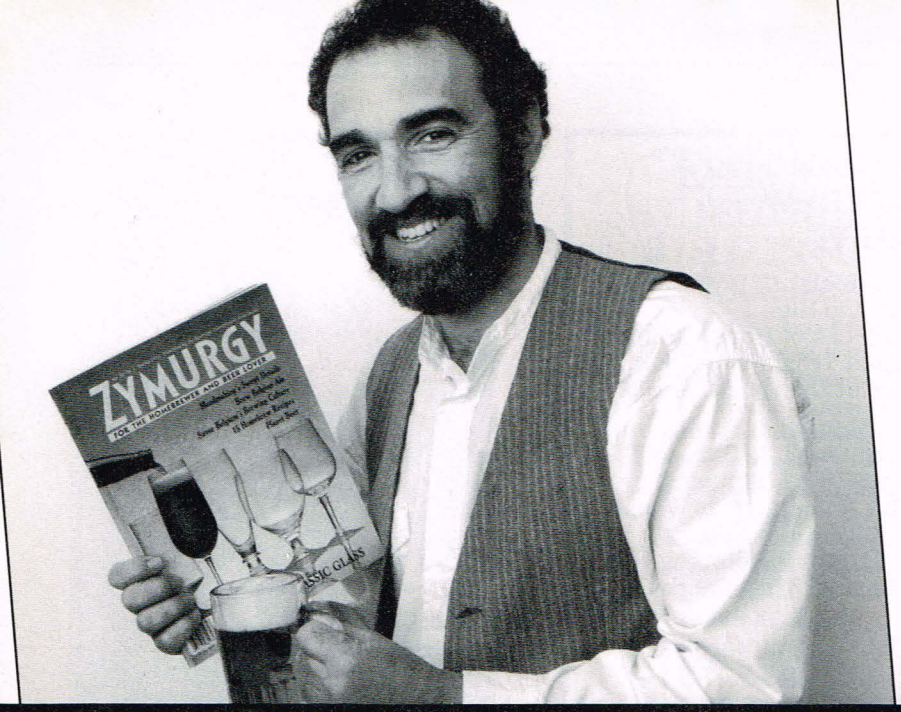

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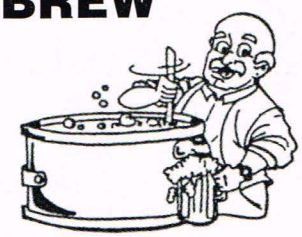

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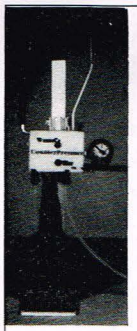

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Brewer's Notebook 2.0 for the Apple Macintosh computer serves as a homebrewing database, calculator, and reference manual rolled into one.

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Brewer's Notebook performs calculations such as water treatment, potential gravity, and hop utilization. An extensive reference database details information on grains, hops, yeast, and numerous beer styles. Dozens of sample recipes are included. Brewer's Notebook is available from Saranac Software for $39.95.

For information call (206) 726-3853 or send e-mail to saranacsft @aol.com. Visit the Brewer's Notebook Web Page at users.aol.com/ saranacsft/brewersnotebook.html.

Join a Microbrew Club

Beer Across America, a microbrewery beer-of-the-month club, has launched a mail-order beer club called Big Brew 22.

Each month, members receive six 22-ounce bottles of microbrew, three of each from two different craft breweries. Beers include porters, stouts, double bocks, and other bold and hearty styles.

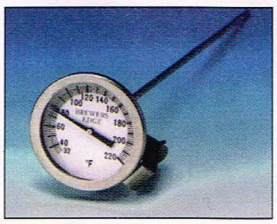
Memberships are available on a limited basis and range from three to 12 months for $29.95 per month. Members also receive two bonuses: a newsletter highlighting the featured beers and the brewers who produce them, and the quarterly Beer Across America glossy lifestyle magazine.

For information call 1-800-854-BEER or visit Beer Across America's World Wide Web site at http://www.beeramerica.com.

Some Like It Hot

The Brewer's Edge Thermometer is designed specifically for the homebrewer.

It features the probe length of a glass thermometer with the durability and convenience of a stainless-steel dial thermometer. The 32° to 220° F range is ideal for mashing and fermenting. A calibration nut is included for fine tuning at any range.



A stainless-steel pot clip comes with it and can be attached to the edge of a mash tun.

The thermometer is distributed to homebrewing shops exclusively by F.H. Steinbart Co. in Portland, Ore.

No-Hassle Recipes

The Recipe Club takes the hassle out of compiling the components of a new formula. Each subscriber to the club receives a newsletter with a recipe for a featured beer style, step-by-step directions and, best of all, the pre-measured ingredients. The club provides an opportunity for homebrewers who want to try a new recipe but are weary of tracking down the numerous ingredients required.

For $29 a batch plus $5 shipping, a new recipe for five gallons of award-winning beer will be delivered every other month with caps, priming sugar, fresh liquid yeast, and instructions. In the spirit of convenience, there are no membership fees, and you may cancel at any time. This service is provided by Beer Unlimited, which also offers a complete line of homebrew supplies.

For those living east of the Mississippi River, call 1-800-515-0666 to order. Westerners call (610) 397-0666.

Muntons Releases Gold Yeast

Muntons Gold Yeast has been available solely as part of its Gold kits — until now. Muntons is offering the product in its own right.

The yeast's crusting characteristics provide a sticky residue in the fermenter, allowing the maximum amount of clean beer to be drawn off. It also ensures that yeast is not poured from bottled beer.

Muntons Gold Yeast is available from homebrew wholesalers and retailers.

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Acadia ClearStar self-cleaning filters from Hayward Water Technologies Group remove particles as small as five microns from water lines and never need replacing.

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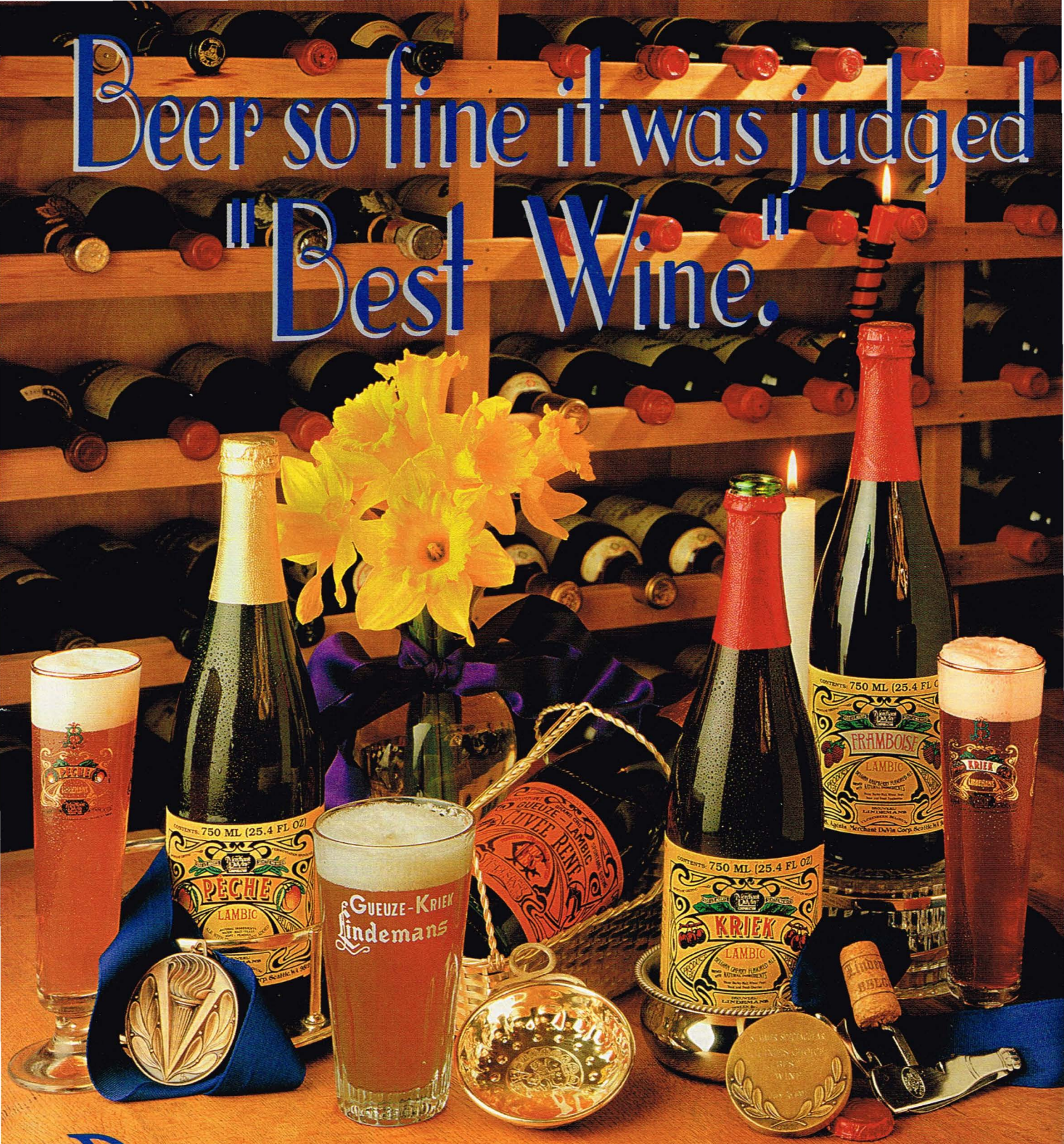
For more information call (908) 351-2700. ■

Beer so fine it was judged "Best Wine."



Professional judges at Sacramento, California's Summer Spectacular were surprised when they discovered that they had awarded to Lindemans Framboise, a gold medal for "BEST WINE" and to Lindemans Kriek and Chocolate Decadence, a gold medal for "BEST MARRIAGE OF FOOD & WINE." No wonder. Since 1811, Lindemans has brewed the finest lambic beers of Belgium, a country renowned for food and beer. Lindemans brews its delicious range of fruity Kriek, Framboise, Pêche and complex Cuvée René Gueuze Lambic Grand Cru by hand, to accompany appetizers, main courses and desserts. Judge Lindemans with food. Don't be surprised if it quickly becomes your favorite wine.

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CIRCLE 42 ON READER SERVICE CARD

Hog Heaven for Good Beer and Local Lore

by Steve Johnson

When I first heard of Blind Pig Brewing, I was a little bent out of shape because I dislike breweries that give negative-sounding names to their beers, such as blind pig, duck's breath, or hog swill.

I mean, why give a deprecating name to a product you are proud of? Then I received a bottle of Blind Pig India pale ale through the mail. "It couldn't be very good with a name like that," I thought. My first swallow proved how wrong I was.

"Wow! This is a wonderfully fresh, hoppy IPA. I can't wait to get my hands on some more of this stuff," I said. My wife claims I even began to contentedly grunt, oink, and wiggle my nose a little. Despite any reservations about the name, I was in hog heaven.

When I called the folks at the brewery to tell them what great beer they made, co-owner Vinnie Cilurzo set me straight on the name. The phrase goes back to Prohibition, when "pig" was the slang term for a mason jar and "blind pig" was an unmarked mason jar. Many legal saloons served bootlegged booze, which was always served in blind pigs. So if you wanted the good stuff, you asked the bartender for a blind pig. Eventually the code name for the saloons themselves became blind pig.

Brewery volunteer and wife of the brewer Natalie Cilurzo rakes out spent grains from the brewery's mash tun.

In Temecula, Calif., Joe Winkels ran the local blind pig. Fronted by the Ramona Inn, the tavern housed a motel, boxing ring, and a brothel. Winkels' blind pig was so successful, even some Hollywood celebrities ventured out to Temecula to partake in its many pleasures. By the '50s the Blind Pig Saloon faded away and became part of Temecula's history.

Cilurzo and his partner, Dave Stovall, decided to name their brewery after the infamous blind pig to make the connection with Temecula's colorful past. After all, their beers were to be made locally, by locals, and sold to the locals. Identifying microbreweries with local heritage is an important element in the American beer renaissance.

Cilurzo and Stovall have continued the historical connection with their other brands. They include Winkels Winter Warmer (their Christmas beer), McNeill's Last Stout, Santa Rosa Plateau Porter, and Old Blue Granite, a barleywine. All the names come from stories Cilurzo heard while growing up in Temecula. A good friend who is also a local historian has helped him with some of the details. McNeill was a local blacksmith who committed a crime and was hanged — the last official hanging in the state of California.

The Santa Rosa Plateau is a nearby ecological preserve. Old Blue Granite is named for the blue granite for which the valley became famous during the early 1900s. Many of Temecula's old buildings were constructed of the local blue granite. And Blind Pig India Pale

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Ale is soon to be renamed: They Passed This Way IPA, after a local monument to celebrities such as Kit Carson who have a connection to this small town.

Cilurzo says the colorful names and logos get potential customers to try the beers for the first time, but what is satisfying is that so many of those customers come back for more. He says this is due to the handcrafted nature of his beers, which were formulated from his award-winning homebrew recipes.

Cilurzo started out in the winemaking business at the tender age of 8, working in his parents' business, the Cilurzo Vineyard and Winery. Founded in 1968, it was the first winery in the valley. From there he got into beer making and when he was only 19 years old began thinking about opening his own brewery. Three years later he began working on the brewery in earnest after returning from a 10-week tour of Europe. On the trip he tried beers in many different countries but related best to the ales made in England.

To bolster his extensive homebrewing background, Cilurzo attended three short courses on the beer business offered by the University of California, Davis. In the process he met Stovall, who was interested in opening a microbrewery. Stovall had a background in international resort management and had good marketing and sales skills. The two became partners and then found a local investor who was willing to put up most of the finances for the little brewery. They also obtained two loans, including a local redevelopment loan.

The pair started on a very small scale. With an initial investment of only $160,000, they were able to install a seven-barrel brewing and kegging system. Cilurzo says it bothers him sometimes when other microbrewers laugh at how small his system is. But he keeps reminding himself that other successful breweries started just as small as his did — Sierra Nevada, for example — and he remembers it took his father 10 to 15 years to get his winery rolling. Starting small can also be an advantage — the consequences of your mistakes are small as well; whereas the bigger you start, the bigger your mistakes are.

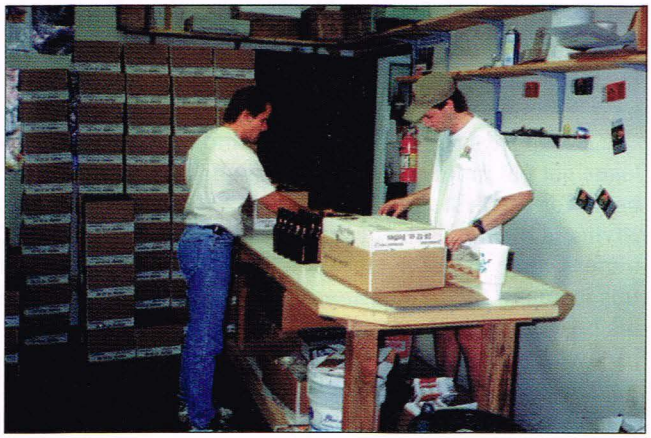
Cilurzo and Stovall had to cut many corners with the equipment, purchasing some from Electric Dave Brewing, which had just closed in South Bisbee, Ariz., and the rest from local wineries and dairies. The fermenters come in every shape and size but add up to an impressive 140 barrels in tankage. And there are 120 more barrels in bright beer tanks, which are all second-hand Grundies from England. Once Blind Pig went into production and began to generate income, the team started trading for better equipment. One area where they didn't economize was kegs. They went with sanke kegs because they were easier to work with than other types. Cilurzo says a used sanke keg goes for about $80. When the brewery opened, they had actually invested more money in kegs than anything else. In the long run, he says, it was a wise decision.

The brewery is located in an industrial park and offers 2,000 square feet of working space. Very little retrofitting was needed, the biggest tasks being the installation of floor drains and the construction of a cold box.

Their original plan called for adding a bottling line after two years. However, two things happened soon after opening. First, there was a great influx of microbrewed beers in Southern California, saturating the tap market. Second, customers were clamoring for Blind Pig beers in bottles so they could have them at home. The partners decided to jump into the bottle market ahead of schedule. They purchased a second-hand Meheen bottler from Whistler Brewing in British Columbia.

They spent $120,000 to bottle, though a new Meheen costs under $30,000. Cilurzo explains that because they couldn't keep up with the demand for their draft beers, to bottle they would have to continue to increase production for draft beer and add more production for bottled beers. This required more fermenters and bright beer tanks, not to mention more hours brewing, bottling, and labelling the beer bottles. The additional investment proved to be a smart move because the bottled beers took off in popularity and now account for 70 percent of their production.

Cilurzo brews a fuller-bodied ale,



Owners Vinnie Cilurzo and David Stovall label the beer bottles by hand. The bottles account for 70 percent of their 2,000-barrel annual production.

with the original gravity ranging from 13° to 15° Plato (1.052 to 1.060) and uses hops liberally. He uses two-row pale malt, mostly from Great Western in Washington, with some six-row pale-ale malt and specialty grains and malts from Hugh Baird from Scotland and Briess from Wisconsin. Cilurzo dry hops quite a bit, putting whole hops in the ESB, IPA, and Old Blue Granite. The water in Temecula is very hard and alkaline, so hard that in addition to gypsum, they have to use phosphoric acid to lower the mash to the proper pH.

In just two years Blind Pig has reached the 2,000-barrel-a-year mark and is distributed throughout the Los Angeles-San Diego area. The Blind Pig tasting room has been extremely popular, with more than 200 visitors weekly. They have a full-time employee to operate the tasting room and offer tours. Cilurzo says most visitors are tourists who are interested in wine and learn about Blind Pig through brochures from local wineries.

By the end of the year, Cilurzo and Stovall hope to bring in more investors to expand the brewhouse to the 25-to-50-barrel size and make brewing less labor intensive. For the more distant future Cilurzo says he would like to start making some Belgian ales, which he fell in love with on his trip to Europe. He was especially fond of the abbey ales, something that both beer and wine lovers can relate to.

The next time you are in Southern California, stop by the brewery and tap room. Located at 42387 Avenida Alvarado #108, Temecula, CA, it is open to visitors daily from 10 a.m. to 4:30 p.m. For more information call (909) 695-4646. ■

Steve Johnson is the author of three brewery guidebooks: On Tap: a Field Guide to North American Brewpubs and Craft Breweries, On Tap New England, *and* On Tap Northern California.

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The Newest Fertility Drug

by Steve Pelzer

If you were to ask your doctor about this, you might receive a strange look. He or she would probably tell you that using beer as a fertility drug wouldn't be the best way to parenthood; there are other drugs that would be much more effective. But if you were to ask the Brews Brothers — Rich Clerkin, John Sovers, and me — we would disagree. I also know three women — Rhonda Clerkin, Susan Sovers, and Sandy Pelzer — who would argue the point.

In January of 1995 for my wife's birthday, I decided it would be fun to go away for a weekend. I also thought it would be cool to invite my brewing buddies and their wives to join us on this little excursion. We had done a lot of things together, but this would be our first — and possibly last — overnighter. Of course this weekend would include a lot of camaraderie and consumption of great beer. None of us were aware of what else would lie ahead.

I chose Galena, Ill., as our destination. It fit my criteria perfectly. First, it was close to home (only a two-hour drive) and second, I was able to find a house to rent there that was relatively cheap and could easily sleep all six of us. Also, I had read that a brewpub opened in Galena, a huge selling point. Finally and most important, the house came equipped with a full-size refrigerator, a definite necessity to keep our homebrew nicely chilled.

So on that Saturday we loaded a couple of cases of our prized homebrew and a few other necessities and headed for Galena. We arrived there around noon. Galena, for those who have never heard of it, is a tourist trap for Midwesterners. It has an old downtown lined with little craft and antique shops on both sides of the main street. It also has a ski resort just outside of town.

After arriving we grabbed something to eat and then spent the rest of the afternoon walking around, visiting a bunch of the local shops and leaving a few greenbacks behind. The Brews Brothers were ready to visit the brewpub a little sooner than the women were, but we obliged their shopping urges, knowing that we would eventually end up there. After what seemed like an eternity, our wives gave us the official okay to head to the brewpub.

Once we arrived, we each quickly ordered our favorite beer style from the menu. After a few sips we decided that these would be our last beers at this place. We had just as good and possibly better beer back at the house. We finished our beers, loaded up the van, and headed back to our rental house, anticipating some excellent homebrew to quench the thirst we had worked up all day shopping. We pondered which brew to begin with: a Mississippi Mud Brown Ale, an It Came Upon a Midnight Porter, or a Muscatine Abbey Ale.

Left to right: Susan and John Sovers, Rhonda and Rich Clerkin, and Sandy and Steve Pelzer.

We got to the house and settled in for a night of good company, good cards and, of course, good beer. Little did we know that this night would haunt us for the rest of our lives.

Both of the other couples were thinking about having their first child. My wife and I were thinking about having our third but not quite yet. Well, that weekend proved to be the downfall of us all. We had all commented on how much fun we had and how we should make the trip again some time. It wasn't until about two or three months later that we found out how much fun we really had. One by one we learned that we would be new parents. This meant more homebrew for the guys and also a set of designated drivers. But it also meant three wives complaining that it was the beer that put them in that predicament.

Our beer labels now carry the official Brews Brothers warning: "Three out of three wives have found this homebrew to lead to pregnancy!" I don't know if there have been any recent scientific studies done on the effect of homebrew on fertility, but take it from three new dads, there's got to be some merit to it. We are proud parents of a boy, Michael, and two girls, Anna and Maggie. The girls were born within 24 hours of each other at the same hospital. Michael was born a month earlier — he was premature. All three are doing very well.

So if you and your loved one are having trouble conceiving, take a lesson from the Brews Brothers and a guy named Charlie and, "Relax, don't worry, have a homebrew." You must also remember that if you are not ready for parenthood, be very careful when drinking a fine crafted homebrew. ■

Do you have a story for Last Call? Write to Last Call, c/o Brew Your Own, 216 F St., #160, Davis, CA 95616.

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