Brew Your Own®

October 1997, Vol.3, No.10
Niche Publications Inc.

THE HOW-TO HOMEBREW BEER M

175 GREAT KITS!

Cyber Beer: Cool Homebrew Web Sites

Brew Oatmeal Stout

Real Bavarian Doppelbock



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"Pete"

Here's a little test. Think about how you'd describe yourself in an ad. Not one of those personals ads. No one cares if you're a "Sagittarius" or that you "look forward to long, moonlit walks on the beach with your soulmate."

We're talking about an actual full page ad about yourself. Would it show you as an astronaut? A celebrated jazz musician? A world class fencing champion? Most of us are just trying to get through this thing (life) with a minimum amount of hassle and strife. And the truth is, most of us totally wimp out when it comes to being even remotely "interesting."

Don't get us wrong. We know some of you are absolutely brilliant. (We get letters from doctors and lawyers and computer programmers, saying that you love our beer, and jeez, thanks.) But what about the big picture? What's stopping us? Where is it written that we can't sign up for race car lessons tomorrow. Or enroll in a stunt man school.

Is it okay for a beer to be more interesting than you?

Maybe you're a fireman, but you'd rather be a blimp pilot. Maybe you're a pastry chef and you'd rather be teaching scuba diving in Belize. Heck, maybe you'd rather make beer for a living. So? What's stopping you? Break out the phone book. Make some calls. Change the channel.

Look at Pete. He goes from driving a cab, to working at a big high tech company. Just like you're "supposed" to do. Everything was hunky dory. Yet at some point, he said, "You know what? I think I'm gonna make the best beer I've ever tasted." And he did.

He could have easily stopped at Pete's Wicked Ale. You know, win a bunch of awards, settle back into a nice comfy lounge chair. But he decides to keep pushing it. Make a bunch of unique, full-flavored, killer beers.

Pete didn't "know" he was going to be happy making beer. Just like you may not "know" you'd be happy being an opera singer (okay, that's a bad example).

The point is, human beings are wonderful things. Just when you think you've figured 'em out. They surprise you. They go climb a big frozen mountain in a wheelchair. Or start an organic vegetable stand. Yeah. Your friends may think you've lost your marbles, but so what? Pete didn't make Wicked Ale for the "masses." He made it for "himself" (okay, himself *and* a few of his weird friends).

So think of these words as a call to arms. Sure, this is an ad for beer. And we'd be lying if we said we didn't dream of you savoring a couple of frosty pints of Pete's Wicked Ale while plotting your course. But the most important thing? Don't-give-in. We need people out there kicking mediocrity in its shiny little butt. Think about it. When was the last time someone whispered softly in your ear, "Hey, you know something? You're the most interesting person I've ever met." (Wow.)



"Wicked Ale"



"Dennis"

- **Great body**
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- **Likes funk music**
- **No real 'problems'**
- **Always there**

- **Likes basketball**
- **Reads a little**
- **Sometimes funny**

PETE'S Wicked BREWS

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To learn more about **The Brew House** beer kit (styles, specs, hops, grains, IBUs) and where to find it, contact us.

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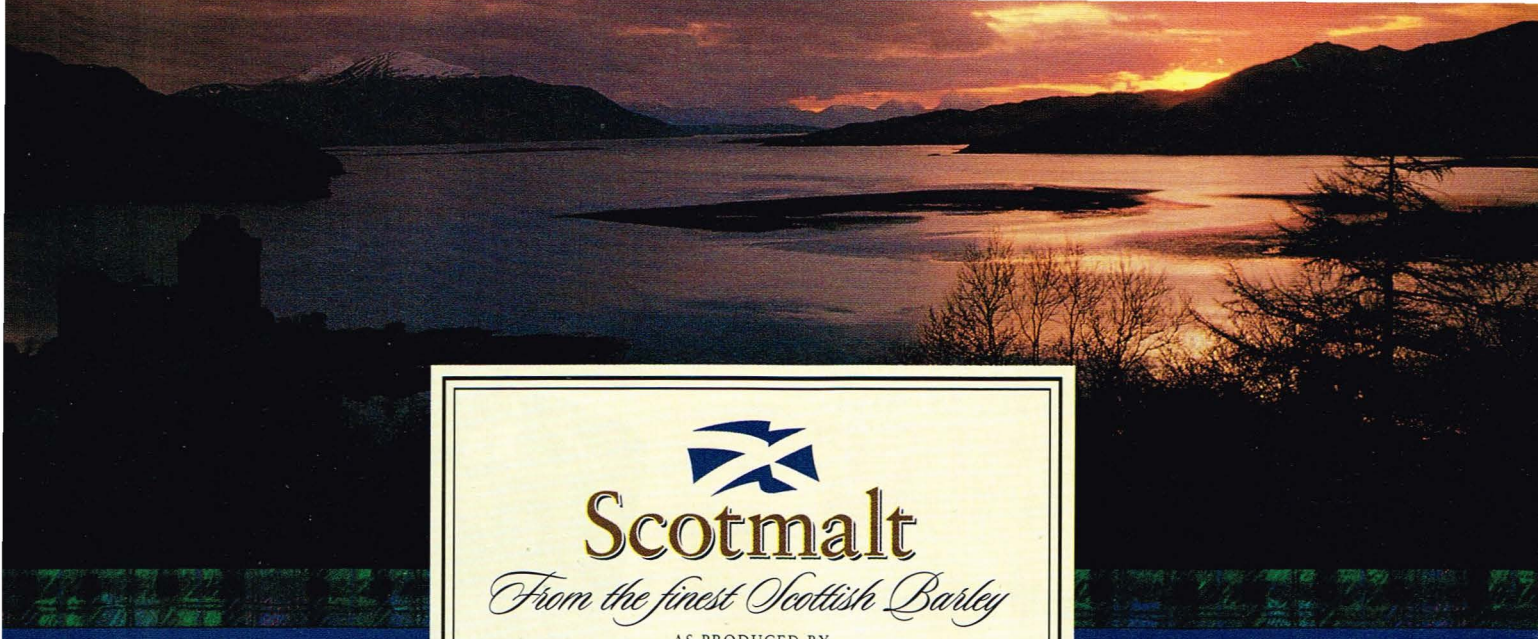


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CIRCLE 19 ON READER SERVICE CARD

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Cover photo: Kent Lacin

Same Old Story

Did you read the newspaper story recently about the guy in his 40s who bought an apartment from a 91-year-old woman? The guy made a small downpayment and agreed to pay additional monthly installments until the woman died. Meanwhile, she would continue to live in the apartment.

Seems strange, I know, but it happened in France. Enough said.

He figured she'd live about six more months, kick the figurative bucket, and the place of his dreams (must have been some apartment!) would become his.

Futures trading is never a sure thing, though. As those radio ads that urge you to put all your money into soybeans advise, "There is an element of risk." In this case the woman lived another 31 years, to the age of 122. Before she died in August, she was believed to be the oldest person in the world.

He, on the other hand, died a few years earlier, a comparative child of 77. Worse yet, after he died his family had to continue making payments to the woman based on his contract.

Perhaps there's a lesson in this story, a lesson about speculating, a lesson about betting on death. Perhaps, but it just makes me wonder what it would be like to live to be 122. And I'm assuming that you know in advance you're going to live that long. Why else would that woman have made that deal?

Think about it. It would certainly take the hurry out of things. That lousy book you were reading that you quit after page 45 because "I don't have time for that kind of junk"? Get back in there and read! What are you going to do for the next 80-odd years, anyway?

Flunked a couple of courses and graduation chances look dim? Don't worry, take five years to get through college, or six. What the heck, take nine; you've got the time!

You want to see your favorite team, but there's a 12-year waiting list for season tickets? Sign up now; you'll get to see every game for 80 years. And in that amount of time, they're bound to win at some point (Cubs excluded, of course).

Mid-life crisis? Not during your barely post-pubescent 30s and 40s. At 61 you're in the prime of life.

Your boss is younger than you and there doesn't seem to be any hope for advancement? Hang in there; he probably doesn't have the staying power.

Or if you really don't like your job, just look forward to retirement. If you retire at the standard age of 65, you have another 57 years to do whatever the heck you want whenever you want. That's a lot of golden years.

And how about homebrewing? In this month's issue we give you a hand getting started on your long brewing life ahead. Our cover feature, "175 Great Kits," lists most of the top extract kits on the market. They cover styles ranging from light lager to imperial stout and just about everything you can think of in between. The story begins on page 40. Better get started; you've only got so many decades left!



Brew Your Own
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DOG BYO 10/97

Brewing in Style

Shari Dirks
Boyton, Fla.

My husband, Harry, and I have been homebrewers for about 1.5 years. We brew together because it allows us to spend some time with each other, and someone needs to watch for boilover.

We brew in style. Harry is 100 percent German and likes to get into the brewing process by dressing the part. He puts on his Hofbräuhaus T-shirt we bought on a trip to Munich one year and his cap he bought in the Black Forest. The cap is also equipped with a pin from each city that we visited. The only thing different about Harry's attire is it lacks the heavy knee socks that usually accompany the leather shorts, which he also does not wear (for good reason: We live in South Florida with an average temperature of 84° F).

I, on the other hand, choose to brew in much cooler attire. Especially now that I am 8.5 months pregnant. I know I won't be able to drink the batches we make for a while, but I sure have a good time brewing them.



The author and her husband find brewing a good way to spend time together, even during Shari's recent pregnancy.



Florida weather will not allow Harry Dirks to complete his German outfit with heavy knee socks.



John Ciasulli is known throughout the neighborhood, both for his beer and his brewing attire.

John Ciasulli
Glendale, Calif.

Hey folks, you want lucky brewing clothes? This hat and apron I'm sporting in this shot were proudly worn while brewing some of the best beer in the neighborhood. Shorts are, of course, optional. I also have a lucky stool I sit on while bottling.

Brew Pets!

Do you have a favorite dog, cat, or other pet who keeps you company when you brew? Tell us about your furry friend and send us a picture. There's a cool BYO T-shirt in it for you. Send your story to Pot Shots, c/o Brew Your Own, 216 F Street, Suite 160, Davis, CA 95616. Or send us e-mail at edit@byo.com. Be sure to include your mailing address!

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RECIPE DATA BASE

To complement this new range of extracts, Morgan's have set up a comprehensive recipe data base so that storekeepers or their customers can have ready access to heaps of recipes for all sorts of beers. Available through Morgan's home page on the net or by simply faxing us with your request.
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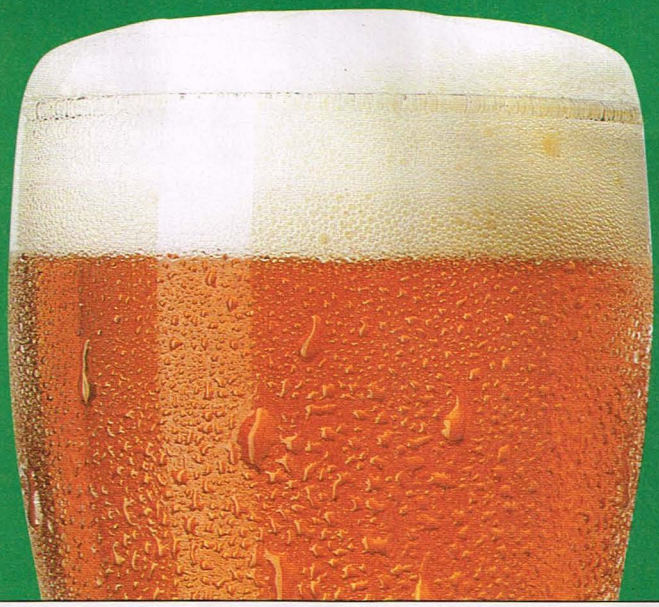
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Piñata Party

I am president of a brew club, The Ale-ian Society in Lubbock, Texas. Our club sponsored a Cinco de Mayo celebration on May 3. We enjoyed a wide variety of homebrew. The club sponsored a Vienna, another member brought a wonderful coffee stout that was outstanding, and of course some wonderful Mexican-style dishes: tamales, fajitas, homemade salsas, and lots of homemade guacamole. Mmmmmmm.

The club also sponsored a homebrew contest, awarding small prizes to the winners. The contest rules: Anything goes. The winner proved to be a great, smooth-tasting German alt. Brewed by myself. I promise it wasn't rigged. Contributors in the festivities included members, wives and husbands of members, and friends of members, including the local brewmeister, Mike Stephens from Hub City Brewery. My son went to work on the piñata hanging overhead, rapping on it with a cane until all the candy and trinkets came showering down on everyone. We all had a great time and are looking forward to the next big club party, which will be Octoberfest.

Scott McDonald
Lubbock, Texas



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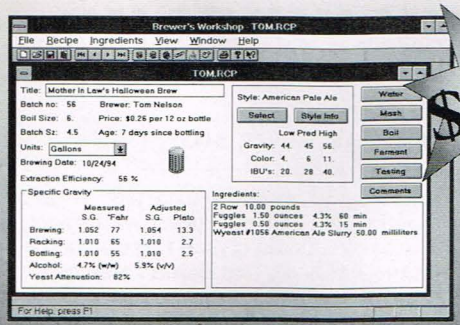
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Driving While Carbonating

Dear BYO,

One Sunday while driving to my weekly softball game with a partially iced cooler in my van, I noticed I needed more ice. The sound of ice cubes knocking around gave me a wonderful idea. The days of getting my Cornelius keg down to temperature and shaking the heck out of it are over.

I decided to get a cooler to fit my Cornelius keg, fill it with ice, stick it in my van, and drive around for a while. The next day I tried it. I had just racked a wonderful Scotch ale in the keg the day before. I used a 162-quart marine cooler I use for cod fishing. After riding for about an hour, I let the keg settle down for an hour or two, and the beer was fully carbonated. My idea had worked, and I didn't use a bit of elbow grease. Now that's carbonating.

Since that day I have installed a tap handle and cooler coil in my cooler.

Joe Versheck
Franklin Square, N.Y.

Long-lasting CO_2

Dear BYO,

As a mini-keg owner I have been plagued with expensive CO_2 cartridges prematurely emptying due to the poor seal at the "face" of the cartridge.

Here's a solution. At an auto-parts shop I bought a rubber tire patch, which is basically thin rubber gasket material that has a sticky back.

I took apart the Fass-Frisch valve assembly (you need a large Allen wrench to get it apart) and cut two circular pieces of rubber to fit behind and in front of the nylon disk where the cartridge sits. I cut a small hole in the center of the front rubber piece for the metal piercing tip to come through.

Long-term storage ability is unknown, but I tapped a mini-keg almost two weeks ago, and I still have gas in the original CO_2 cartridge. The beer's still carbonated.

Randy Shreve
Salisbury, N.C.

Quick Fix for Tubing

Dear BYO,

My immersion-type wort chiller had a design flaw. Nothing supported the vinyl tubes where they connected to the vertical ends of the three-eighths-inch copper coil. The vinyl tubing folded over at the ends of the copper tubing, restricting the flow of cold water through the coil. The weakened vinyl tubing might have caused a blowout. Here's a permanent fix for less than $4.

I bought compression-type springs, which could be installed on the chiller ends to support the vinyl tubing. They were five-eighths inches in diameter by 2.75 inches long by 0.041 wire guage. They had to fit fairly snugly over the vinyl tubing. The cost: 92 cents each (Midwest Fasteners Corp. #14).

I cut the vinyl tubes on the chiller off at an inch above the ends of the copper tubing to avoid weakened areas. The crimp-on type hose clamps were removed and tossed, as were the remaining sections of vinyl tubing, which had to be cut off the ends of the copper tubing with a knife.

I slipped one of the springs onto the vinyl tube



section, which has the faucet connection on the opposite end, and both vinyl tubes were reinstalled onto the copper tubing ends to a depth of 1.5 inches. I installed five-eighths-inch-diameter hose clamps (69 cents each from an auto-parts store) an inch down from the ends of the copper tubes. The springs went over the vinyl tubes and rested on the tops of the hose clamps.

Perry Rutherford
Long Beach, Calif.

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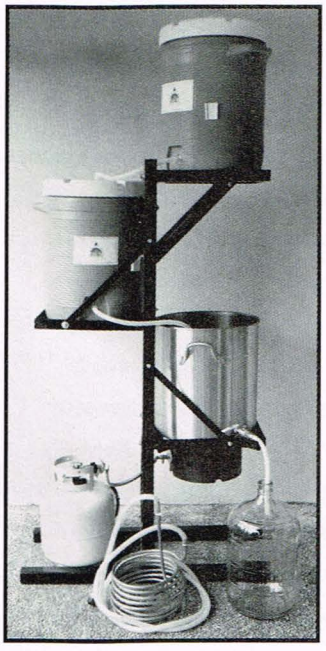
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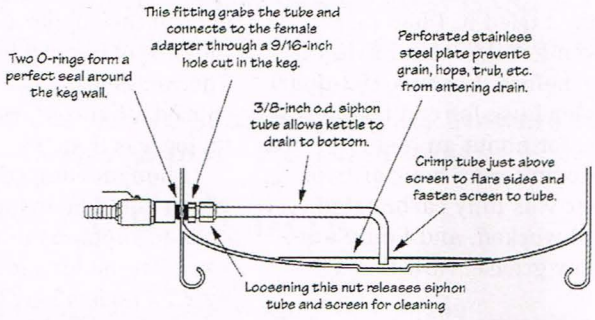
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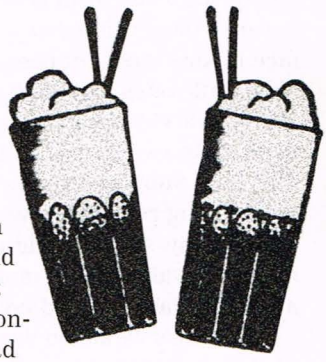
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CIRCLE 58 ON READER SERVICE CARD

Good Ol' Fashioned Root Beer



by Scott R. Russell

If you've been following recent trends in the homebrewing and microbrewing industry, you may have noticed a sudden rebirth of gourmet soda pop.

Many brewpubs and micros are making their own root beer, birch beer, and ginger ale. Plus there are cases full of natural and gourmet sodas in most convenience stores in most towns. And there are a bunch of new homebrew soda extracts on the market as well.

One major homebrew wholesaler has even sought out and marketed the real thing, genuine sarsaparilla, wintergreen, licorice, birch bark extract, and sassafras. Wow, what a great time to be a homebrewer. My children have always enjoyed drinking root beer and especially when they get to make it with me.

Now it's funny how my memory works (or doesn't lately). It's only recently that I've remembered my first homebrew experience, dating back probably to when I was 6 or 7 years old. My father's extended family (four sets of aunts and uncles, grandparents, 15 or so cousins) used to always get together for picnics on holidays such as Memorial Day and July Fourth. Lots of food, of course, plus horseshoes, badminton, softball, and kids running everywhere. The only thing missing was beer. My grandparents didn't drink at all; in fact I think they frowned on alcohol in a Yankee Puritan sort of way.

I remember one such picnic when one of my older cousins brought out jugs of homebrewed root beer. He had probably made it from an extract, mixing sugar and water and syrup, adding a little yeast. I'm sure it wasn't from scratch, with real roots and herbs, but at my impressionable age I had only been exposed to the commercially made stuff (even A & W Root Beer was a rare treat, because you had to find one of the road-side stands to get it back then).

My cousin's root beer was wonderful, rich, creamy, and I remember it still after 30 years. I've made root beer for my kids from almost every available extract and more recently from scratch. Everyone loves it. The kids, naturally, but it's amazing how much the adults get into it, too. As if they are missing part of their childhood. The taste of a summer picnic, family gatherings, simple treats.

These days root beer is a bit

Real Root Beer
(5 gallons, partial mash)

Ingredients:

- 2 lbs. crushed mild ale malt
- 1 lb. dark crystal malt, 120° Lovibond
- 0.25 lb. black malt
- 0.25 lb. chocolate malt
- 3 lbs. unhopped dark dry malt extract
- 0.5 lb. dark unsulphured molasses
- 4 oz. maltodextrin powder
- 1 oz. Cluster hop pellets (7% alpha acid), for 60 min.
- 0.5 oz. sassafras bark
- 0.5 oz. sarsaparilla bark
- 1 oz. dried wintergreen leaves
- 0.5 oz. shredded licorice root
- pinch sweet gale (optional)
- pinch star anise (optional)
- pinch mace (optional)
- pinch coriander (optional)
- dash black cherry juice (optional)
- 10 to 14 g. dry ale yeast
- 2 oz. lactose powder
- 7/8 cup corn sugar
- 0.5 cup spice tea (pinch wintergreen, sarsaparilla, licorice root)
- corn sugar for priming

Step by Step:

In 1 gal. water mash crystal, black, chocolate, and mild ale malts at 155° F for 60 minutes. Sparge with 1.5 gals. at 170° F. Add 1 gal. water to kettle and bring to a boil. Add dark dry malt, maltodextrin, and molasses. Stir well to avoid scorching. Add Cluster hops and boil 60 minutes. At kettle knockout steep your spice combination (in a mesh bag) as wort cools.

Pour into fermenter and top up to 5.25 gals. Cool to 75° F and pitch ale yeast. Ferment seven to 10 days at about 70° F, rack to secondary, and condition at 60° F for two weeks. Prime with corn sugar, add strained spice tea (1/2 cup boiling water over spices for at least a half hour), and bottle. Age two to three weeks cool (55° F).

Alternatives and Options:

Non-alcoholic creamy version: Instead of fermenting the wort, cool to 75° F, substitute 5 to 7 g. dry champagne yeast for the ale yeast, and bottle immediately. Store at 70° F for two or three days, then refrigerate. Follow these instructions exactly, otherwise you risk exploding bottles. You may also use ale yeast, which is somewhat safer because it will not continue to ferment in cold temperatures. However, the bubbles will not have that fine champagne quality.

A safer way to carbonate: Get a CO_2 system and either put your root beer in 5-gal. soda kegs (force carbonated) or get Carbonater-brand couplings and bottle in 2-liter PET bottles (force carbonated at 25 to 28 psi, chilled and shaken well).

trendy, right? Well, I've never been one to shy away from bandwagons just because they're bandwagons. Let's face it, kids love root beer. All kinds of kids. Little ones, big ones, you name it. But big kids (a.k.a. grown-ups) might need their own root beer. Hence our dilemma. Suppose you make a really nice-tasting root beer: sweet, full-bodied, creamy, spicy. Wouldn't it be even more enjoyable with a modicum of alcoholic warming and hop aroma?

So here's what you do: Make a double batch, bottle some unfermented for the kids, and ferment the rest. Give it some zing.

Simple, no?

Reader Recipes

Oktoberfest

(5 gallons, all-grain)

Here's a tasty Oktoberfest recipe. This is a lager, so it's important to ferment in cool temperatures.

David Siemen
Spring Lake, Mich.

Ingredients:

- 5 lbs. wheat malt
- 5.5 lbs. pilsner malt
- 4 lbs. two-row malt
- 1 lb. Belgian cara-Vienne malt
- 0.75 lb. Belgian Special B malt
- 0.5 oz. Tettnanger hops (5.5% alpha acid), for 45 min.
- 0.75 oz. Styrian Goldings hops (5% alpha acid), for 30 min.
- 0.75 oz. Saaz hops (3% alpha acid), for 30 min.
- Brewers Resource CL680 yeast (Bavarian lager)
- 1 tsp. gypsum
- Sugar for priming

Step by Step:

Mash grains with 3 gals. water at 152° F for 90 minutes. Sparge with 4 gals. of 170° F water. Boil for 60 minutes, adding Tettnanger hops for 45 minutes. Add Styrian and Saaz at 30 minutes before the end of boil. Cool wort to 50° to 55° F and add yeast. Ferment at same temperature for one to two weeks or until fermentation is complete. Cool to 40° to 45° F and lager for three weeks.

Rack to bottling bucket, add priming sugar, and bottle. Store bottles at room temperature for two weeks or until fully carbonated, then store cold until consumed.

West Coast Amber Ale

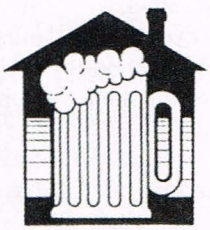
(5 gallons, extract and specialty grains)

A very complex flavor, big on malt and hops. Fans of Rogue ales will love it. It is one of the few that I've made more than once. I like experimenting, but I wouldn't change a thing.

Shawn Andrews
Grape and Grain Unlimited
Springfield, Ill.

Ingredients:

- 6.6 lbs. Muntons light malt syrup
- 2 cups Muntons light dry malt extract
- 1 lb. crystal malt, 40° Lovibond
- 0.75 cara-Vienne malt, 20.7° Lovibond
- 0.5 lb. cara-Munich malt, 62° Lovibond

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- 2 tsp. gypsum
- 2 oz. Northern Brewer hop pellets (8.8% alpha acid), for 60 min.
- 1 oz. Willamette hop pellets (5% alpha acid), for 30 min.
- 1/4 tsp. Irish moss
- 2 oz. Centennial hop pellets (10.3% alpha acid), 1 oz. for 15 min., 1 oz. for steeping
- Wyeast 1272 American Ale II in 750 ml. starter
- 1.25 cups light dry malt extract

Step by Step:

Bring 3 gals. of water to 160° F. Place grain bag in water for 30 minutes. Remove bag. Add gypsum and bring to a boil. Add malt extracts and Northern Brewer hops. Boil for 30 minutes and add Willamette hops. Boil for 15 minutes and add Irish moss and 1 oz. Centennial hops. After 15 minutes remove from heat and add remaining Centennial hops. Total boil is 60 minutes.

Force cool and add to fermenter partly filled with pre-boiled, cooled water. Top up to 5 gals. with pre-boiled, cooled water. When wort temperature reaches 78° F, add yeast. Ferment for seven days and rack to secondary. Allow to settle for seven days and bottle with light dry malt. Age for three to four weeks at room temperature. Chill to 58° F and enjoy.

OG = 1.055
FG = 1.017

Mesa Negra Porter

(5 gallons, extract and specialty grains)

This was inspired by a porter in Oregon with added hops and body.

Guy Purdy
Wee Bairn Homebrew Supply
Snohomish, Wash.

Ingredients:

- 0.5 lb. chocolate malt
- 0.5 lb. black malt
- 0.5 lb. honey malt
- 0.5 lb. crystal malt, 10° Lovibond
- 4 oz. roasted barley
- 0.5 lb. maltodextrin
- 6 lbs. pale extract
- 1 lb. light dry malt extract
- 1.5 oz. Galena hop pellets
- 1 oz. Cascade hops
- 1 oz. Tettnanger hops
- Wyeast 1338 yeast
- 2 tsp. gypsum
- 2 tsp. Burton water salts

Step by Step:

Add salts, gypsum to 1.5 gals. of water. Steep grains 30 min. at 160° F. Sparge with 0.5 gal. at 170° F. Add extracts, maltodextrin. Top off in the brewpot. Boil and add Galena. Add Cascade at 30 minutes and Tettnanger in last 5 minutes of boil. Cool to 75° F, remove hops, and pitch yeast.

OG = 1.050
FG = 1.024

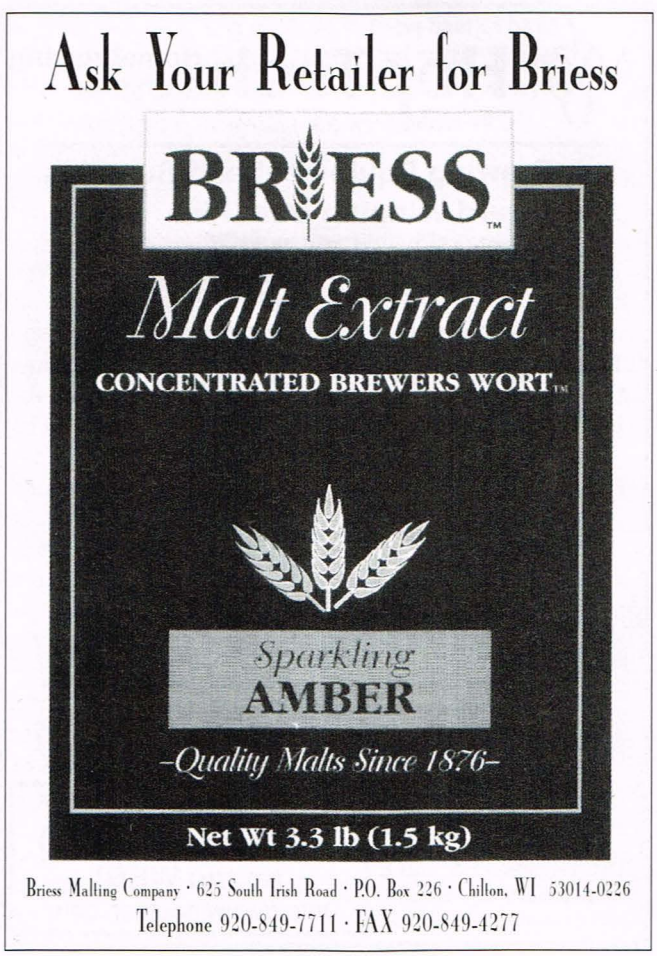
English Brown Ale

(5 gallons, all-grain)

Hugh Baird brown malt and Fuggle



CIRCLE 54 ON READER SERVICE CARD



CIRCLE 21 ON READER SERVICE CARD

hops are the foundation of this ale.

Gene Almquist
Homebrewers Outpost
Flagstaff, Ariz.

Ingredients:

- 3 lbs. John Bull light malt, unhopped
- 3.5 lbs. Maris Otter pale malt
- 0.75 lb. Hugh Baird brown malt
- 0.5 lb. Hugh Baird carastan malt, 13° to 17° Lovibond
- 0.25 lb. chocolate malt
- 2.25 oz. Fuggle hops (4.3% alpha acid), 1 oz. for 90 min., 0.75 oz. for 45 min., 0.5 oz. for 20 min.
- Wyeast 1056 starter
- 1 tsp. Irish moss

Step by Step:

Mash grains in 5 qts. of 153° F water for 90 min. Sparge with 10 qts. of 175° F water. Add 1 oz. Fuggle hops and boil for 90 min. Add 0.75 oz. of hops for 45 min., and remaining hops for 20 min. Add Irish moss with 10 min. left. Chill and pitch starter. Ferment in glass primary at 68° F for four days. Transfer to secondary and ferment at 66° F for nine days. Force carbonate. Condition for 10 days.

OG = 1.046
FG = 1.012

Prideful Porter

(5 gallons, extract and specialty grains)

This robust porter has great malt flavor and body and is well balanced by hops. It has excellent aroma and a creamy head that stays around to the bottom of the glass.

Bill Carter
Carter's BYOB Inc.
Columbus, Neb.

Ingredients:

- 6 lbs. liquid malt extract
- 1 lb. amber dry malt extract
- 0.5 lb. chocolate malt
- 3 oz. Willamette hop pellets (5% alpha acid), 2 oz. for 50 min., 1 oz. for 5 min.
- 0.5 lb. crystal malt, 60° Lovibond
- 1 lb. black patent malt
- 3 oz. Fuggle hop pellets (4.3% alpha acid), 2 oz. for 50 min., 1 oz. for 5 min.
- Wyeast 1084 Irish ale yeast
- 3/4 cup sugar for priming

Step by Step:

Steep grains in 2.5 gals. of 160° F water for 20 minutes. Remove grains and bring water to a boil. Remove from heat and add dry and liquid extract. Return to heat and bring to a boil. Boil for 10 minutes and add 2 oz. each of Fuggle and Willamette hops. Boil for 45 minutes Add 1 oz. each of Fuggle and Willamette hops. Boil for 5 minutes. Cool wort, aerate, and top up to 5 gals. Pitch yeast at 80° F. Ferment in primary at 60° F for 10 days. In secondary ferment at 60° F for 12 days. Bottle with priming sugar and condition for three weeks.

OG = 1.052
FG = 1.018 ■

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CIRCLE 3 ON READER SERVICE CARD

Fermentation: It Ain't Over...

Mr. Wizard

Recently I brewed a porter. A very nice porter as it turned out, but something strange happened while it was fermenting. After eight days of primary fermentation, I racked the beer into a carboy. With my previous brews, seven or eight days was plenty of time for the beer to settle down and compose itself so I could rack. However, when I opened the bucket for this brew, the beer was busily foaming away. I wasn't sure what to do, but I didn't want to leave it on the primary trub, so I racked it.

When bottling time came, the beer was nice and tasty but had a finishing gravity of about 1.020. I'm just wondering why the yeast was behaving oddly and if I racked too early. What should I do in this situation? On the other hand the beer is excellent, so I'm not sure I'd want to do anything differently when I brew this porter again.

Scott Gruber
Washington, D.C.



I am forced onto an unavoidable tangent about the length of fermentation before answering this question. I have yet to figure out why so many recipes for beer include a time period for fermentation. The duration of a brewery fermentation is somewhat dependent on the wort's original gravity and hence a particular recipe. But the most important factors about the duration are the concentration, viability, and vitality of the yeast, the temperature of fermentation, the level of wort oxygenation, and the amount of certain key nutrients such as zinc. Even breweries with very tight control over every step of the process experience variations in fermentation. Therefore I am a firm believer in the "let the fermentation go to completion" method of brewing.

In this particular case I don't agree that your yeast was "behaving oddly" simply because it was still fermenting after eight days. Suppose you underpitched the yeast, a very common occurrence. I would not be surprised at all if the fermentation took longer to begin and end than expected. Or maybe the wort was cooled to 60° F instead of 70° F and your house temperature was cool due to the time of year; under these circumstances I would expect a slower fermentation.

What I recommend for all brews is to rack the beer only after the goals of primary fermentation have been achieved. If the goal is to ferment to completion, then racking should only occur after the beer's specific gravity ceases to change or the fermentation is visibly complete. Visual assessment is very reliable. In fermenting some beers, such as lagers, that depend on secondary fermentation for carbonation, the beer must be racked before terminal gravity is reached. In both examples the beer is not racked until the goals of primary fermentation are complete.

Your concern about leaving the beer on trub is a valid one, but the off-flavors that result typically show up in beers that spend weeks in the same vessel and become even more pronounced if the beer is warm during this period.

Your second question about the terminal gravity seeming a bit high probably is associated with the premature racking, especially if you chilled the beer after racking. The important thing is that your beer tastes fine. However, in the future don't worry too much about fermentations that seem to move a little slower or a little faster than expected. As long as the fermentation finishes in an acceptable range of time, you're probably doing fine. I get concerned when a fermentation starts very slowly and lasts longer than about two weeks.

Mr. Wizard

I wonder if you can explain the effects of using an aluminum pot for brewing. I own a restaurant, and we have several large stock pots. Is it okay to use one of those to brew beer? I have made a pretty good porter in one of the pots, but it seems like everyone recommends stainless steel.

Mark Dougherty
Appleton, Wis.

I have mentioned in previous columns aluminum pots and even aluminum fermenters can be used to make very good beers. In fact many of the small breweries in Germany still use aluminum fermenters today. In the days prior to stainless steel, invented by chance in 1913 and not used in brewing until 1923, aluminum was a common metal used in brewing. Aluminum was quickly replaced, however, by stainless steel because of aluminum's susceptibility to corrosion by acid and, most notable, caustic cleaners that cause severe pitting to aluminum surfaces.

More recently, aluminum cooking (and brewing) vessels have come under fire for use with acidic foods. For example tomato sauces are incompatible with aluminum because aluminum dissolves into the food. The problem here is that aluminum is a

toxic metal if ingested in high concentrations. Since wort is also acidic it, too, will dissolve aluminum, and eventually that metal will wind up in the consumer's belly. There is also a growing body of anecdotal evidence linking aluminum to Alzheimer's disease; the brains of Alzheimer's sufferers have higher levels of aluminum compared with non-Alzheimer's sufferers.

Although not related to health, high levels of aluminum in packaged beer will lead to oxidation. This only becomes a major problem if the beer is exposed to aluminum late in the process, such as in the package. This is why all aluminum cans are lined. The advertisements for Keystone beer (claiming "specially" lined cans) is ridiculous because Keystone beer cans are no different than Coors cans (Coors makes Keystone products).

This said, make your own decision. When I began homebrewing, I used an aluminum pot and made very good beer. I can't exactly remember what they tasted like or for that matter what kind of beer I began brewing, but they were all good — I think.

Mr. Wizard

I haven't graduated to kegging my beers yet but have at least moved up to the 22 oz. bottles from the 12 oz. size. I see many different types of bottle-washing gadgetry on the market. Although I haven't had any problems with my method so far, I was wondering if what I am doing is adequate. Basically, as soon as or shortly after I empty my bottle into a glass, I fill the bottle about three-quarters of the way with warm water, turn it upside down, and shake it vigorously while it drains. Then I repeat this procedure. I park the bottle upside down to dry and then store in the case, again upside down. At bottling time I just use my bottle tree to let the bottles dry after dousing the inside with iodophor solution. Is what I am doing adequate, or is there a big potential for a problem?

Tom Starr
Modesto, Calif.

In the print world of *BYO* I am known as Mr. Wizard, but in real life I am more frequently known as Mr. Clean. You see, I am a fanatic about cleaning. I have specific cleaning methods for the shower, kitchen and utensils, toilet, my beer glasses, and most important, brewing equipment.

There are really two stages to cleaning when it is applied to food or beverage implements. These are cleaning and sanitizing. Cleaning is simply the removal of debris, usually organic in nature, from the surface of the object being cleaned. Sanitizing is used to kill yeast or bacteria that may spoil beer or food and, in the case of food, to kill pathogenic microorganisms. Cleaning usually begins with a rinse to remove loose debris. Your hot water rinse falls into this category of

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CIRCLE 38 ON READER SERVICE CARD

"pre-cleaning."

The next step of cleaning is to use some sort of energy input to remove soil that remains on the item being cleaned. Thermal, chemical, and mechanical are the three modes that describe cleaners and one or a combination of these is usually used. For example when you wash dishes with hot, soapy water you are using 1) elbow grease or mechanical energy, 2) hot water for the thermal factor, and 3) soap as a chemical cleaner. This step is critical because organic (schmoo) and inorganic (beerstone) components in beer adhere to surfaces and are largely unaffected by rinsing, even in cases where the object looks clean! Ahhhh, it feels great to preach the cleaning sermon.

This is not to imply that pre-rinsing is not important. If loose soils are not removed before cleaning, they will reduce the cleaning power of your cleaner. Those dishwashing-liquid commercials that show greasy plates being dunked into the dish water are the perfect example of how not to clean. This does nothing more than make the cleaner less effective for the next greasy plate until the cleaner becomes so dirty that it begins to make the surface dirtier than it was before cleaning. Believe it or not this actually happens and is know by cleaning gurus as re-deposition.

After cleaning it is then time to use a sanitizer. This is an important segregation of duties because most sanitizers work by oxidizing things. If the sanitizee is clean, then the stuff being oxidized is most likely very tightly adhered to the sanitzee surface. The only things routinely left after cleaning are bacteria that form tight bio-films on surfaces. This is what the sanitizer is intended to oxidize. If the surface still has other organic debris, then the sanitizer will be used up on the remaining crud.

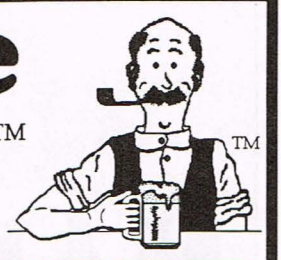
There are exceptions to the rule that a surface must be cleaned before it can be sanitized. The most common example is the application of heat to kill microbes. The object being sanitized is heated until a certain temperature is achieved and maintained for a given time. In other words the energy is not wasted on debris and is effective in any case.

I think your pre-rinsing of bottles is an excellent start because it prevents beer schmoo from drying on the surface. I would not consider this surface clean enough to be sanitized. I would strongly recommend cleaning with detergent between your water rinse and iodophor application. If I were doing the work, I would accumulate pre-rinsed bottles over time, clean them all at once, and then sanitize immediately after cleaning to make the work more efficient.

Mr. Wizard

I have a friend who almost died one night while drinking and it was later discovered he has a problem with his pancreas. If he drinks alcohol, he may

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die. Now he drinks non-alcoholic beer to satisfy his craving because he, like all my friends, loves beer. The problem is that he wants a better tasting non-alcoholic beer than those commercially available. Is there a way to make non-alcoholic beer at home? It's sad that there are some people who can't enjoy what we beer connoisseurs can.

Christian Scheeler
Buffalo, N.Y.

I answer this question with some hesitation because of the serious consequences possible when your friend consumes alcohol. Non-alcoholic homebrew can be made by the various methods used in the commercial brewing trade to produce similar products. Some non-alcoholic beers are made by removing the alcohol from low-alcohol beers, for example with vacuum distillation and reverse osmosis, and others are made by never really fermenting the wort but rather flavoring it to taste like beer with a variety of ingredients. For these products to legally qualify as non-alcoholic they must contain less than 0.5 percent alcohol, roughly the same level naturally encountered in many fruit juices. This means that the brewers who make these products diligently monitor alcohol content. It's the law.

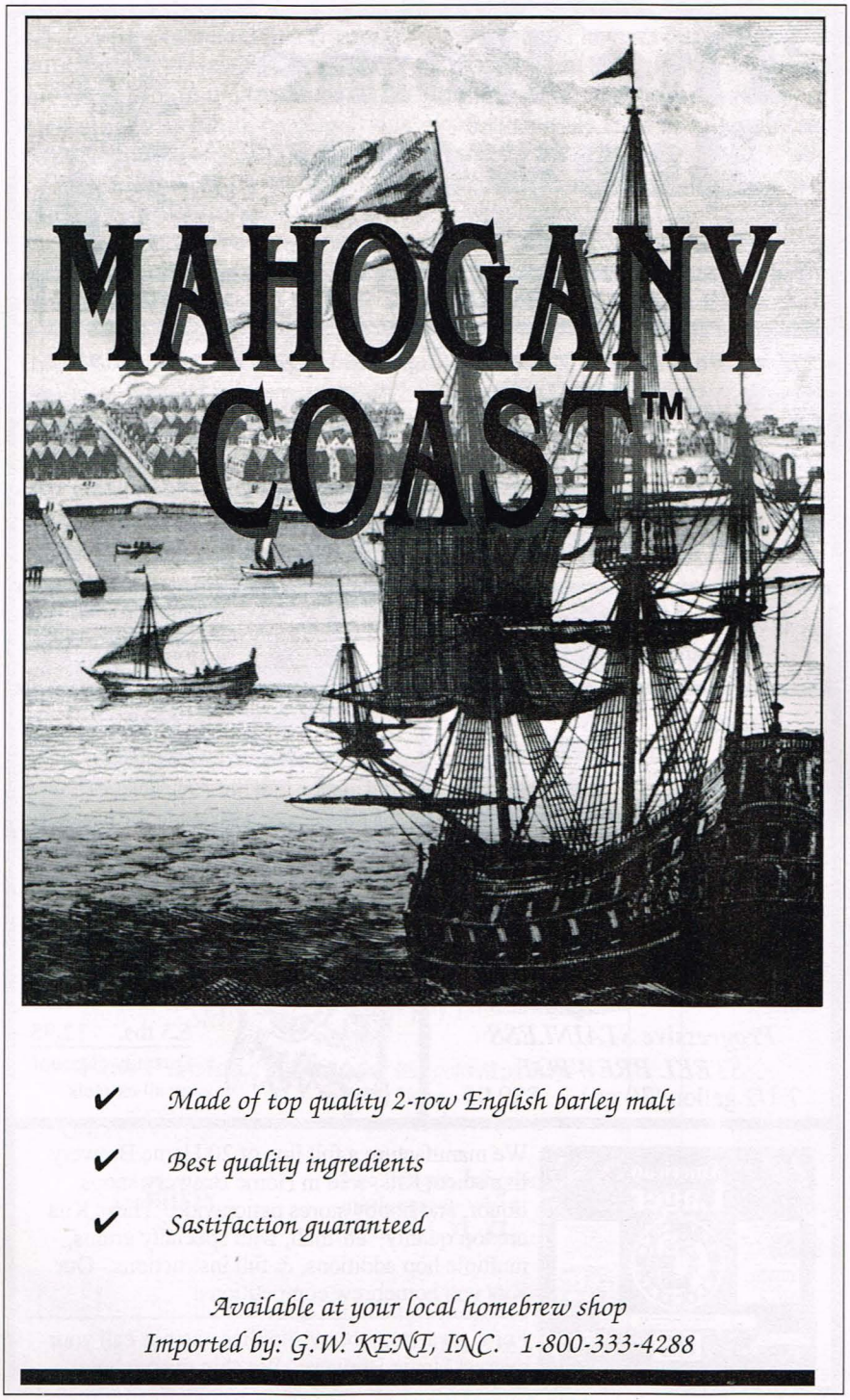
Non-alcoholic homebrew, on the other hand, carries no guarantee that it is truly non-alcoholic. Just because the method was followed does not mean that the desired outcome was achieved.

I think you would be doing your friend a big favor by admitting that non-alcoholic homebrew may be too risky for him given his particular health situation. I have many times wished that non-alcoholic beers tasted more like real beer, but the sad fact is that they don't.

As it turns out alcohol plays a much more significant role in beer flavor than many people think. Alcohol affects beer mouthfeel and is one of the contributors to the full, rich feel that normal-strength beers have. This is one of the reasons that most light beers have a watery mouthfeel.

Alcohol also contributes to the sweetness of beer. Other alcohols, known as higher alcohols, give beer fruity, spicy, and chest-warming effects. Unfortunately, when alcohol is removed from beer this complex melange of flavors is also removed.

I'm sorry that I can't give you a more uplifting message, but it would be against this Wizard's better judgment in this situation to say otherwise. ■



CIRCLE 41 ON READER SERVICE CARD

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.

Mr. Wizard, BYO's resident expert, is a leading authority on homebrewing whose identity, like the identity of all superheroes, must be kept confidential.

Preventing Yeast Off-Flavors

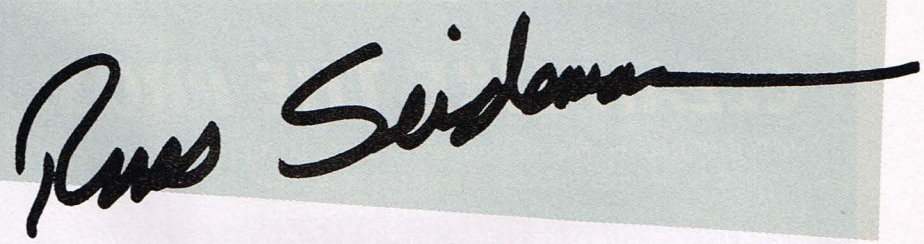
by Suzanne Berens

Seidemann Brewing Co.

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"Cleanliness is a mantra that is intoned all the time, but it can't be stressed enough. It plays a big factor in preventing off-flavors."

Brewer: Russ Seideman



Brewer: Russ Seideman
Brewery: Seidemann Brewing Co.
Years of experience: seven months
Education: BS in chemical engineering, University of Wisconsin, Madison; MBA in management, Northwestern University's Kellogg Graduate School, Evanston, Ill.
House Beers: Rio Salado Munich Export and Rio Salado Amber Altbier

In general the more common off-flavors associated with yeast are phenolic and some of the sour flavors (*Lactobacillus* and acetaldehyde). Phenolics, associated with a plastic or Band-Aid smell, are often caused by wild yeast. To prevent wild yeast sanitize (well).

If you aerate your wort very well, your yeast will get to work faster and stronger. When you areate, you give yeast the nutrition they need. The healthy yeast then crowd out bacteria.

Old yeast and insufficient aeration can cause excessive esters and soapy off-flavors through yeast autolysis. Autolysis, releases fatty acid. Yeast do this somewhat as a normal function of their metabolism. If you've aerated well you avoid excessive autolysis decay, because the yeast have enough oxygen to consume.

If you pitch enough yeast, aerate enough, and limit lag time (time between pitching and the start of fermentation) to no more than six hours, you decrease your chance of getting off-flavors. Any lag beyond 48 hours is not good. Lag time ties in with cleanliness. During lag time bacteria can spread before the yeast have a chance to kick in. If you've got a good, vigorous yeast going, it will crowd out the bacteria. During the lag phase wort is very vulnerable.

A yeasty taste is due to autolysized yeast, which comes from leaving your beer on the yeast too long. If you leave your beer on the yeast for a month at a temperature above 80° F, autolysis is likely to occur. If yeast cells run out of sugar, they will begin to decompose. Pitching too much yeast could also be a factor, although it is not often a problem with homebrewers, who pitch too little yeast more often than too much. But it can happen.

Diacetyl is another off-flavor in which yeast play an important role. Diacetyl is associated with buttery and butterscotch flavors. Yeast form some diacetyl. Some yeast form more than others depending on the strain and amount. If you brew correctly, later on in the process yeast will reabsorb diacetyl. The off-flavor can be caused if you try to force your fermentation and bottle too soon. Some yeast are slower at reabsorbing the diacetyl. There are others that don't create as much of it.

Diacetyl is permitted in small quantities in certain styles but never in lagers. Performing a diacetyl rest helps. After primary fermentation let the beer increase in temperature five to 10 degrees for a couple of days. This encourages the yeast to reabsorb diacetyl at a faster rate. That's done commercially as well as in homebrewing. But be careful. If the rest is too long, you get autolysis. If you raise the temperature for a fairly short period of time right after fermentation has ended — one to two days depending on the yeast strain and length of fermentation

The Tips

- Aerate your wort well to avoid autolysis, which can lead to excessive esters and soapy flavors.
- Limit lag time to avoid bacteria. A vigorous fermentation will crowd out bacteria, which can lead to sour and phenolic off-flavors.
- Make sure the yeast you use for repitching is fresh. Taste the batch it was used in initially to test it.
- Perform a diacetyl rest that is long enough to reabsorb the diacetyl but not so long that autolysis occurs.

— most diacetyl can be reabsorbed.

Another yeast-related off-flavor can occur when repitching. Taste the beer made with the original yeast to get an idea of whether there is any sourness or any other off-flavor. Sourness indicates that bacteria is stuck in your beer.

If the beer tastes bad, don't repitch the yeast from that batch. Nothing will propagate bad yeast like bad yeast. Diacetyl is also associated with certain bacteria.

Hydrogen sulfide (rotten egg smell) is very dependent on the strain of yeast. Certain strains, especially lager yeast strains, tend to produce hydrogen sulfide during fermentation. You may detect this smell during fermentation, but as long as beer stays in contact with yeast long enough and you're fermenting at the right temperature, the hydrogen sulfide will be reabsorbed and go away.

High ester levels are not always an off-flavor but usually are with lagers. Esters, which taste and smell like banana or other fruit, have a lot to do with fermentation temperatures that are too high, in the mid-70° F range. You want temperatures that are 50° to 55° F for lagers and 60° to 65° F for ales, depending on the yeast. Pitching rate also plays a role. Esters are more likely when the pitching rate is too low. A lot of times people who pitch low amounts of yeast tend to compensate by cranking up the temperature.

Solvent-like fusel alcohols depend on the yeast strain and fermentation that is too high, anything above 75° F. ■

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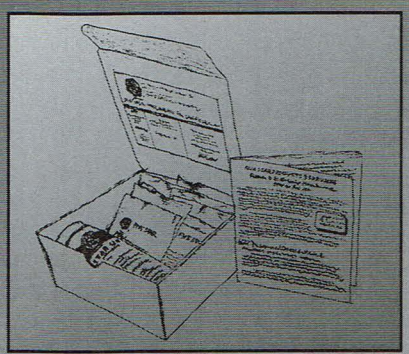
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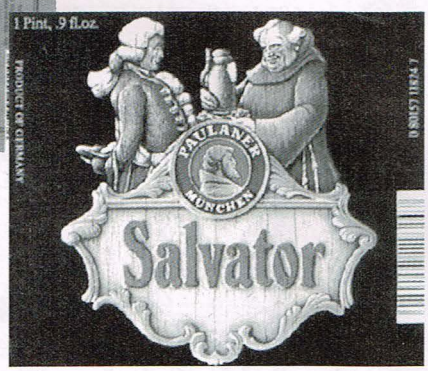
Doppelbock: Bavaria's Holy Beer

by Alex Fodor

Doppelbock traces its history to a monastic brewery founded in 1634 in the Bavarian town of Munich. To sustain them during periods of religious fasting such as Lent and Advent, the Pauline monks drank a dark, sweet beer called Sankt Vater Bier or Holy Father Beer.

If eating and drinking nothing but doppelbock for four weeks sounds like a good idea to you, perhaps you should consider the original composition of this dark brew (not to mention professional help). The original doppelbock was low in alcohol at about 4 percent by weight and high in residual sugar. The final gravity around 1.035 made it extremely sweet. The high sugar content in this 16th century brew, similar to today's Ovaltine, undoubtedly provided fasting monks the nutrients they needed to survive the ordeal of food deprivation.





In 1780 the monks made their unique beer available to the secular public. Beer drinkers likened the brew to the cherished pale bock from the north German town of Einbeck. Because of the strength of the brew and its dark color, it was dubbed "doppelbock" or "double bock." During the reign of Napoleon in the early 1900s, all the breweries of Germany were secularized. The Paulaner brewery came under the ownership of Franz-Xaver Zacherl, who produced the doppelbock under the name Salvator, meaning savior. Other brewers of doppelbock follow in the footsteps of the original by naming their beers with the suffix *-ator*.

Besides Salvator, the aspiring beer hunter can usually track down other German classics such as Ayinger Celebrator and Spaten Optimator. No longer designed as a diet supplement, modern versions of doppelbock have a much higher alcohol content, ranging in strength from 5.5 to 6.3 percent by weight. Comparatively less sweet than their ancestor, most brews ferment from an original gravity of 1.072 to 1.080 down to a terminal measurement between 1.016 and 1.028. The color of doppelbock varies between amber and an almost opaque dark brown, with an

SRM (color) value of 12 to 30.

A subtle hop bitterness, between 17 and 27 IBU, balances the sweetness while a purposeful absence of hop aroma allows the malt to dominate. Noble German hops are the traditional choice for bittering, although other varieties will do the job.

The doppelbock brewer's goal is to make a deceptively drinkable beer while maintaining a luxurious mouthfeel and an intriguing aromatic complexity. So brewers use a plethora of specialty grains. The grain bill may contain 30 to 80 percent Munich malt, 11 to 60 percent pale malt, 0 to 5 percent light crystal, 5 to 8 percent dark crystal, and up to 1 percent chocolate malt. Any black malts should only contribute a slight roasted character that melds into the overall maltiness from the Munich and crystal malts.

A triple decoction mash, the traditional method, will contribute color and flavor to the brew. Infusion mashers can make up any flavor deficiencies by adding a little extra dark crystal malt and still make a doppelbock that tastes authentic. A higher conversion temperature, 153° to 155° F, will raise the final gravity, thereby increasing the residual sweetness.

Ferment cool, 45° to 50° F, with a German lager yeast. Because doppelbock has a high initial gravity, the yeast have a big job to complete during the fermentation. Aerating the wort thoroughly and using a large pitching rate will ensure a complete fermentation and minimize off-flavors that do not suit the style. Brew your doppelbock well ahead of time so it can lager in the fridge for at least a month.

Refrigerator Doppelbock
(5 gallons, all-grain)

This luscious doppelbock is dark and delicious yet in the middle of the range in color, bitterness, and alcohol.

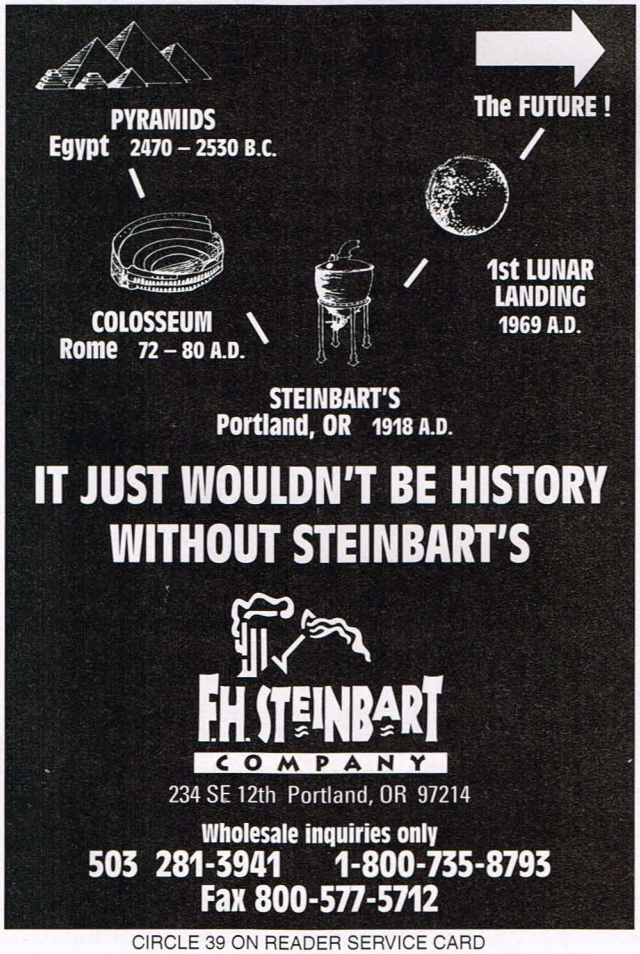
Ingredients:

- 10 lbs. Munich malt, 10° Lovibond
- 2 lbs. pale malt
- 1 lb. crystal malt, 80° Lovibond
- 3 oz. chocolate malt
- 0.5 oz. Perle hops (10% alpha acid), for 60 min.
- Bavarian or Munich lager yeast

Step by Step:

For a temperature program mash, dough room-temperature grains into 4.5 gals. of mash water at 140° F to reach a temperature of 132° F. Hold for 15 minutes. Then raise temperature 2 degrees per minute up to 155° F and hold for 45 minutes. Raise temperature to 165° F for mash-out. Sparge with 168° F water to collect 6 gals. of wort.

Boil for 30 minutes and then add hops. Boil for another 60 minutes to make a total boil time of 90 minutes Cool and aerate wort, rack into a carboy, and add yeast at 60° F. Hold until start of fermentation, then slowly chill to 50° F and hold for the remainder of fermentation. After fermentation allow temperature to rise to 55° F for two days. Then cool to coldest refrigerator temperature and lager for four weeks. Package as desired and enjoy.



CIRCLE 39 ON READER SERVICE CARD



CIRCLE 57 ON READER SERVICE CARD

Refrigerator Doppelbock
(5 gallons, grain and extract)

Don't feel bad if your mash tun can't fit 13 pounds of grain. One sip of the partial-mash version of this delicious German delicacy and you'll feel much better.

Ingredients:

- 6 lbs. liquid pale malt extract
- 6 lbs. Munich malt, 10° Lovibond
- 1.5 lbs. crystal malt, 80° Lovibond
- 3 oz. chocolate malt
- 0.5 oz. Perle hops (10% alpha acid), for 60 min.
- Bavarian or Munich lager yeast

Step by Step:

For a temperature program mash, dough room temperature grains into 2.5 gals. of mash water at 140° F to reach a temperature of 132° F. Hold for 15 minutes. Then raise temperature 2 degrees per minute up to 155° F and hold for 45 minutes. Raise temperature to 165° F for mash-out. Sparge with 168° F water to collect 5.5 gals. of wort.

Add extract to kettle along with the wort. Boil for 30 minutes and make the hop addition. Boil for another 60 minutes to make a total boil time of 90 minutes. Cool and aerate wort, rack into a carboy, and add yeast at 60° F. Hold until start of fermentation, then slowly chill to 50° F and hold for the remainder of fermentation. After fermentation allow temperature to rise to 55° F for two days. Then cool to coldest refrigerator temperature and lager for four weeks. Package as desired and enjoy.

Seeyoulator Doppelbock
(5 gallons, extract and specialty grains)

Ingredients:

- 5.5 lbs. pale liquid malt extract
- 4 lbs. dark liquid malt extract
- 1 lb. crystal malt, 60° Lovibond
- 0.5 oz. Perle hops (10% alpha acid), for 60 min.
- Bavarian or Munich lager yeast

Step by Step:

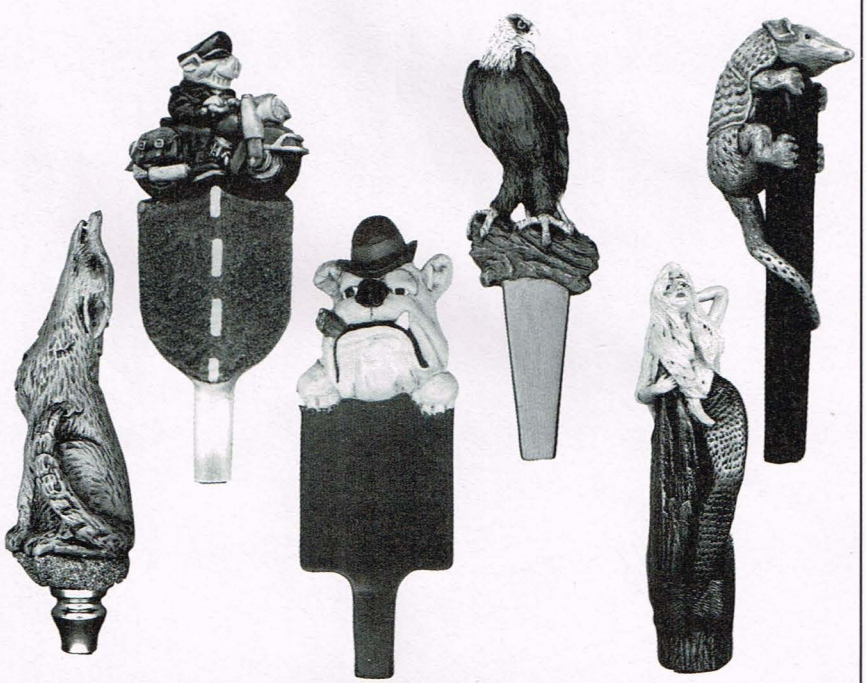
Pour crushed grains into a nylon mesh bag. Steep in 2 gals. water at 150° F for 15 minutes Meanwhile, heat 2 gals. of water separately to 150° F. Remove bag of grains and place in a colander or strainer. Place colander over kettle. Pour hot water through grains in colander to extract all the flavor from the malt. When finished, the kettle should contain 4 gals. of grain-tinged water. Stir in malt extract while heating the kettle to boil. As soon as the boil starts, add hops. Total boil time is 60 minutes.

After kettle boil, cool wort to 60° F and add yeast. Hold the temperature until the start of fermentation, then slowly chill to 50° F for the remainder of fermentation. Add 1 gal. of cold water to bring total volume to 5 gals. Then cool to coldest refrigerator temperature and lager for four weeks. Package as desired and enjoy.

OG = 1.076
FG = 1.015 ■

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Surfing



for HOMEBREW

by Dave Grimm

So you're King Henry VIII, and you can't get it out of your head that your favorite Scottish ale would be the ideal beverage to wash down that enormous drumstick you're always gnawing on. Sure, getting the recipe for your brewers won't be easy. But you're the king, and the brew is to die for. So you dispatch the navy for the recipe, and six months later your messenger returns with a copy — about the time you're hit with an irrepressible craving for a good German hefe-weizen.

Of course for those homebrewers not living in the past, this isn't a problem. With little more than computer and modem at your disposal, you can have a boatload of hefe-weizen recipes and ingredients speeding to your door in minutes — without ever having to pull up anchor on the royal fleet. The Internet is loaded with resources that can make life a little easier for homebrewers



TODD HAMMOND

of all levels. From expert advice to recipe databases to on-line mail-order catalogs packed with obscure ingredients and recipes, the 'Net can greatly expand one's ability to produce top-quality brew.

But digging up the best sites can be almost as challenging as navigating the high seas on a rubber duck. A search for the word "homebrew" brings up 14,943 sites containing that word. Obviously, surfing through the entire batch would take enough beer to float the king's fleet.

Finding sites that prize information over self-promotion is part of the trick. "There are a lot of commercial sites that are really little more than billboards, which I have little use for," says Mark Stevens, co-founder of The Brewery, one of the best homebrew sites out there. "It's kind of a mixed bag. There are not a lot of great sites going up."

BYO was happy to do the heavy surfing for you. We sorted through a slew of Web sites (okay, not all 14,943) and found a few that are liable to put a twinkle in any homebrewer's eyes.

The Brewery

The Brewery (http://www.brewery.org/) grew up around the noble goal of a group of homebrewers. They wanted to offer an on-line homebrew recipe list, The Cat's Meow. The easy-to-use database now offers 1,009 recipes and remains the most popular part of the site, averaging about 30,000 hits a day.



But that's only part of the story. The site also offers an excellent section of how-to articles serving homebrewers ranging from those who don't know a carboy from a car alarm to those advanced enough to follow plans for building their own two-tiered brewing system.

The site also offers links to other sites, a list of suppliers, and various other treats — all sans advertising. And Stevens says they try to maintain the quality of the links and other information, excluding those they don't deem worthy.

Homebrewer's Digest

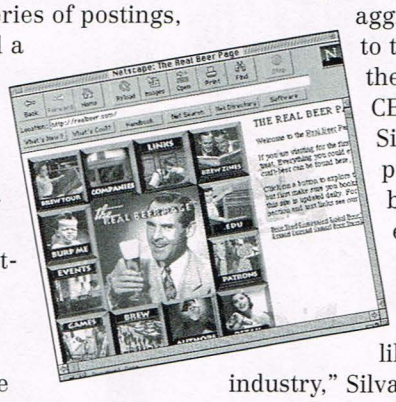
Homebrewer's Digest, a listserv that sends messages from the group to your e-mail address, is another great resource, though sometimes a bit technical for your average homebrewer. One memorable series of postings, for instance, provided a minutely detailed breakdown of the chemical composition of the water in various famous brewing cities. So if for some reason you wanted to brew your own Old Milwaukee, let's say, you could have a good head start on the makeup of the water used by the brewery.

For those unfamiliar with Internet listservs, picture this: You have gathered thousands of homebrewers from around the world into one huge room, and they are all conducting a (usually) orderly discussion of the tricks of the trade. And you have a microphone that allows you to ask any question you want. The gurus found on this mailing list can likely answer about any homebrewing question you can come up with. Struggling to explain those green chunks floating in your wort? Can't figure out why your beer has the unintended aroma of Diehard battery acid? Want to make beer out of the avocados growing in your backyard? Post a question to this list and you're likely to get the answer you need. To sign up send an e-mail message to homebrew-request@brew.oeonline.com with only the word "subscribe" in the body of the message.

Or if you don't want to sift through the barrage of correspondence this list generates on a daily basis, the aforementioned Brewery site offers a great alternative: a searchable database of past Homebrew Digest issues. A great way to get instant advice on an enormous array of possible homebrewing situations.

The Real Beer Page

Saying that the owners of the Real Beer Page (http://realbeer.com) are aggressively adding content to the site is "like saying the ocean is damp," as CEO Mark Silva puts it. Silva's team is striving to put together the spot for beer and homebrewing enthusiasts. "People won't necessarily remember us as the innovator but as librarians for the industry," Silva says. "And I'd be very pleased with that."



A stroll through the site brings home his point. Never mind that the site is the on-line home to 15 beer and brewing magazines, including *BYO*'s site (www.byo.com), or that it has excellent searchable databases for beer events and breweries. Within a few months the site will give rise to Homebrewer.com, incorporating The Brewery and another excellent site, Spencer's Brew Page (http://realbeer.com/spencer/), along with dozens of other resources found on the existing site.

"We're giving people homes to park stuff if they have real good information that we don't want to go away," Silva says. The brewery/event search engines are particularly nifty. Say you're planning a road trip to San Francisco and you intend to be thirsty when you get there. The site will give you addresses and phone numbers of the city's breweries, brewpubs, and beer events, and link you to their Web sites when possible.

The Hop Page

Glenn Tinseth's Hop Page (http://realbeer.com/hops), which occupies a chunk of space in the Real Beer universe, proclaims itself the most complete hop resource on the Web. Who are we to disagree? The site



is loaded with goodies about hops, including a bitterness calculator, which will tell you how many bittering units your beer will have, given a variety of factors. The author also provides what he considers reputable sources for fresh hops and even offers an article on how to grow your own, including a mail-order source of hops seedlings.

Rec.crafts.brewing Newsgroup

For those not familiar with newsgroups, they are sort of like the listservs described above. The difference is that correspondence is posted at the newsgroup site, not conducted through e-mail. And messages are broken down by topic, making this voluminous group a little easier to handle. But the effect is the same: If you want to discuss the merits of aluminum versus enamel-coated brew kettles, just post an inquiry. Chances are a few dozen people will want to weigh in with their take on the matter.

American Homebrewer's Association

AHA's site (http://www.beertown.org) has loads of useful information, including information on dozens of homebrewing books. It also has a list of laws for each state governing homebrewing. According to the list, 13 states don't permit homebrewing and several others are listed under "possibly permitted." It could come in handy, especially if you live in one of those 13. The site also provides information on becoming a certified beer judge.

UK Homebrew Page:

This site is part of BreWorld (http://www.breworld.com), which claims the prize for being the largest on-line brew resource in Europe. Its homebrew page offers instructions for subscribing to a discussion group that focuses on UK beer styles and issues. If you're a lover of the concoctions produced in that part of the world, this would be the place to rap about them. The site also has a small recipe section.

These sites will give you a good start on where to study up before your next homebrewing session. Brewers with more specialized interests, such as lambic and mead brewing, will find links from several of the sites discussed above. But for those who are using the home computer for little more than e-mail and Doom, this is your chance to bring your homebrewing out of the dark ages.

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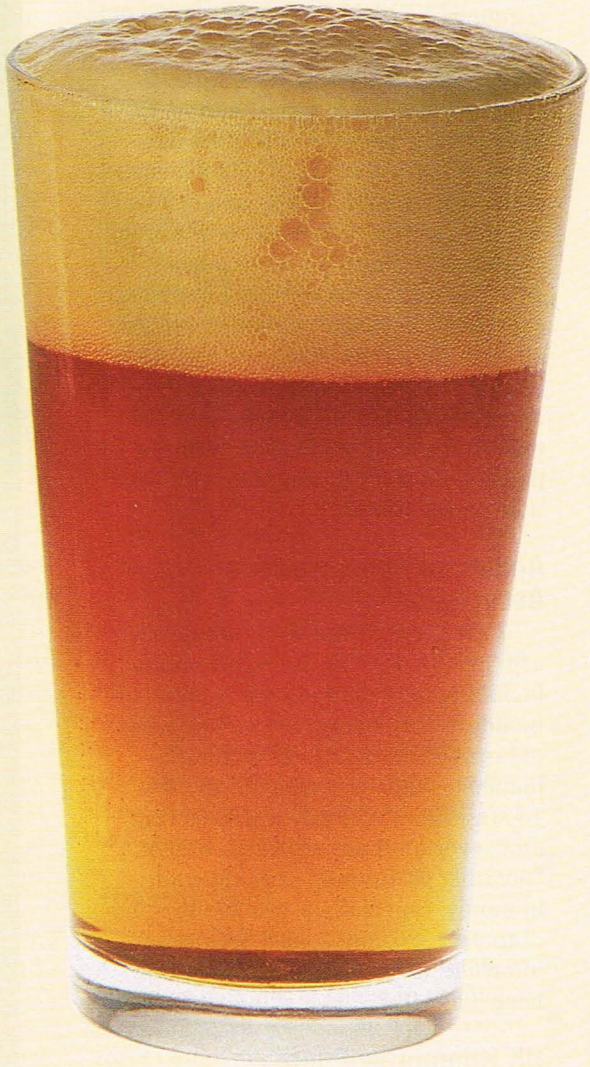
This is the second of a three-part series.

While many factors create a beer's overall flavor, the specialty grains you choose for your brew may have the biggest impact on how it is perceived.

Most all-grain beer recipes consist of 80 to 90 percent generic pale two- or six-row malt. The rest of the grain bill consists of one or more specialty malts. Your choice of specialty malts will have a dramatic impact on the



TODD HAMMOND



cialty Grains

by Randy Whisler

flavor, mouthfeel, and color of the beer. Specialty malts range in flavor from the light and sweet cara-pils to the astringent, carbon-like black malt.

When starting to use specialty grains, many brewers add them to extract beers. Go sparingly. Many brewers use too much of a specialty malt in their early recipes. Try using only one specialty malt at a time at about 10 percent of the total grain bill of the recipe as a specialty malt. This will give you a taste of what the particular malt can do for a beer flavor profile.

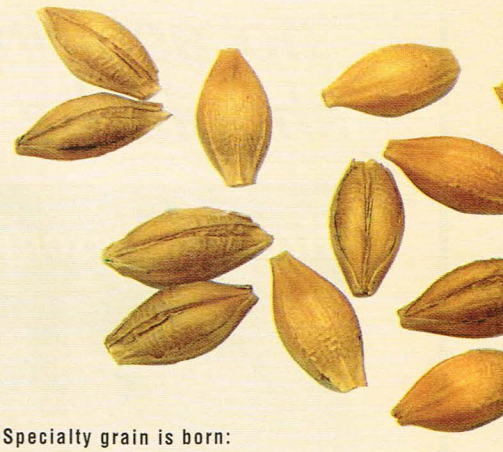
Also, you'll get a better feel for the quality of the specific malt if you use a single recipe for a fairly light beer with a low hopping rate. With each batch just vary the amount or type of specialty malt you're adding.

Malt Categories

There are two major malt categories: caramelized malts and non-caramelized, or roasted, malts.

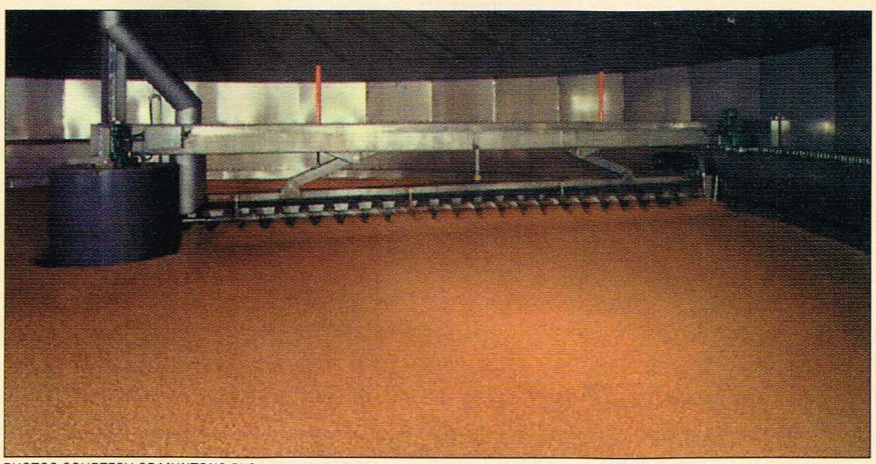
Caramelized malts are any malt that the maltster mashes in the kernel. In other words the maltster takes malt without crushing it and hydrates it. He then heats the water-malt mixture to a mash temperature of 140° to 160° F. This causes the malt enzymes to degrade the starch in the kernel, thus effectively mashing each individual kernel. Most but not all of the starch is degraded to small sugars.

The maltster then dries the mashed malt kernels at a given temperature





Specialty grain is born: Once the barley plants (left) are harvested, sieves and cleaners remove small kernels, stones, and chaff from the grain. Next come steeping, germination (below), and kilning.



PHOTOS COURTESY OF MUNTONS PLC

from 180° to 350° F. This causes the sugars to crystallize. It also causes the sugars and nitrogen-based compounds (mostly amino acids and proteins) to combine to form melanoidins (brown to red color agents). The higher the drying temperature, the darker the color will be.

Malt kernels have an internal pH at this point of around 7. This pH is conducive to both caramelization and melanoidin formation. Both chemical reactions work better at higher pH.

Caramelization is the formation of brown color from the rearrangement of sugar molecules without the help of nitrogen-based molecules. Because caramelization occurs during this malting process, these malts are commonly referred to as caramel or caramelized malts. However, all caramelized malts have crystallized sugar in them, but not all crystallized malts have a large amount of caramelized products in them. Also, some specialty malts that are made without in-kernel mashing have caramelized products in them.

The other category of specialty malts is commonly referred to as roasted malts. It consists of any specialty malt that did not undergo an in-kernel mash process. Rather, its color is derived from heat generated during the kilning process. Examples of this type of malt range in color from Vienna malt (3° to 4° Lovibond) to roasted malt (500° to 600° Lovibond). Again, the major difference between the two styles of malt — caramelized and roasted — is that caramel malt has previously mashed sugar in it while the other specialty malts do not.

This differentiation is very important for the homebrewer who is not making all-malt mashes. Since caramel malts have all been premashed they will, after being crushed, dissolve easily in an extraction brew. An infusion in 150° F water for 45 to 60 minutes will work well and requires minimal attention. If you are experimenting with specialty grains, you can try just crushing the grain, throwing it in a nylon stocking (preferably unused) or mesh bag, and letting the nylon bob around in the boiling wort for 10 minutes. You should add the caramel malt right at the start of the boil.

This method works well for most brewers, who do not worry about the additional tannins being leached into the boil; they will be coagulated out with the trub at the end of the boil.

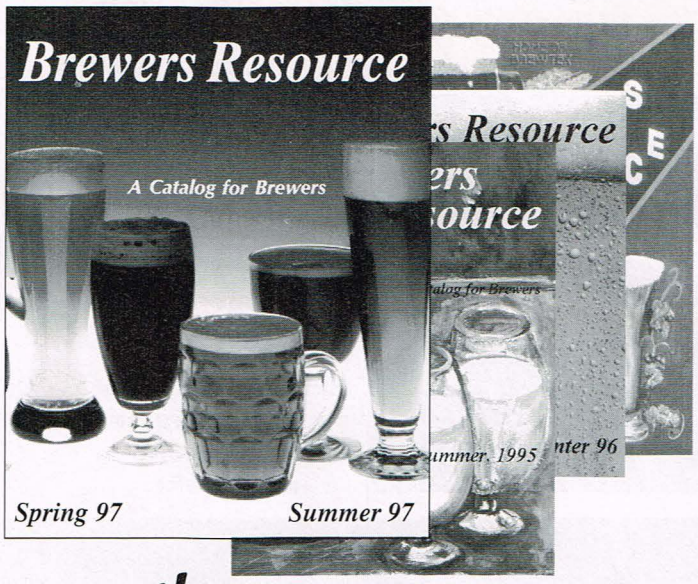
Starting With Caramelized Malts

For brewers who are starting partial-grain brews, caramelized malts may be the best place to start. Caramelized malts come in a wide variety of flavors and colors and are extremely easy to use.

Here is a brief sampling of the caramelized malts:

Cara-pils: This malt is very light in color, 4° to 8° Lovibond. Its primary use is to improve head retention and

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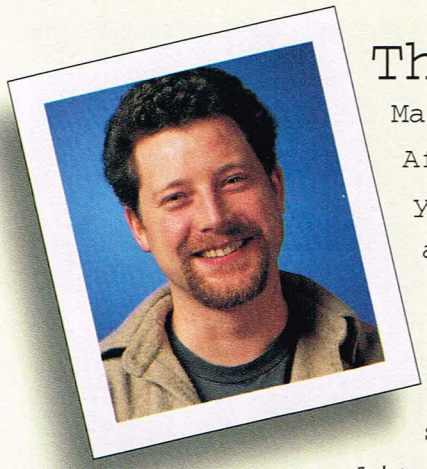
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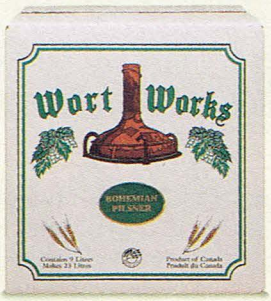
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This is Sean. He's our beer guy.

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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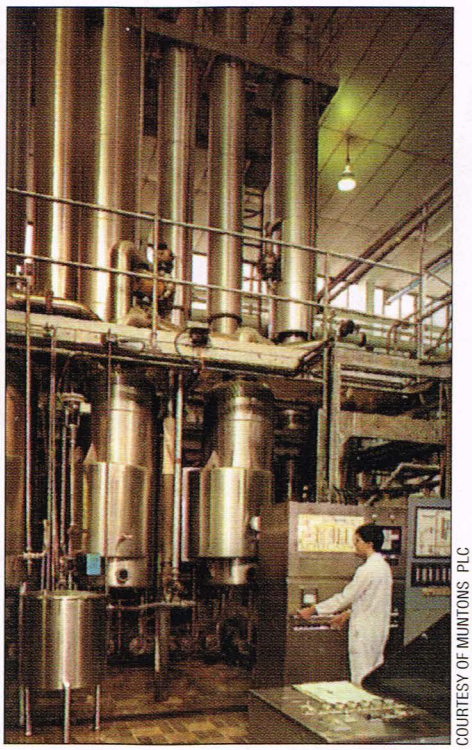
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Maltsters germinate the grain in large vessels (right) that force air into the grains. At this stage all malt — base, caramel, and roasted — is treated equally.



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Malting companies convert the grains into extract, saving homebrewers the time and trouble of mashing their own malt.

also to give the beer better body and mouthfeel. Its flavor contributions are reported to add a sweet character to beer.

Cara-Vienne: This malt is slightly darker than cara-pils, 20° to 25° Lovibond. It is an ideal malt for making Vienna, Märzen, and Oktoberfest styles of beer. This malt also gives the beer a bigger mouthfeel and more body. It has a slight caramel, toasty aroma.

Cara-Munich: This malt is medium in color, 50° to 60° Lovibond. It is ideal for Oktoberfest styles of beer, along with being used in bocks, doppelbocks, and maibocks. It does add body and mouthfeel. The flavor profile has been referred to as caramel-like with a nut finish.

Special B: This is a reasonably dark caramelized malt, 100° to 130° Lovibond. A little of this malt goes a long way for both color and flavor.

Baseline beers

by Jeff Frane

To enhance your brewing experience, brew some experimental batches with different caramelized malts. The best thing about the experiments, of course, is that you get to drink the results.

Note: It's really important to use the palest possible malt extract as the base; it's very difficult to get a really pale extract beer. But this will give you a much better baseline for observing the use of the caramel and roasted malts, and most closely approximate the use of real pale malts in an all-grain brew.

All the beers have this base in common:

Base Ingredients

- 4 lbs. Alexander's extra light malt extract
- 3 lbs. Laaglander extra light dry malt extract
- 2.5 oz. Northern Brewer or Cascade hops (about 7% alpha acid), for 75 min.
- 1 oz. Cascade, Goldings, or Mt. Hood hops at end-boil
- 1 qt. yeast starter of vigorous ale strain (such as Wyeast 1056)

For All Beers

Crush the grains, and infuse them in 1 gal. water at 150° F for 45 to 60 minutes. Rinse the grains, reserving all liquid, and add the malt extract (do *not* turn on the burner under the kettle until all extract is well dissolved). Bring volume to 2.5-3 gals., boil for 15 minutes, and add 2.5 oz. hops. Boil 75 more minutes, adding 1 oz. hops at end-boil. Cool wort as quickly as possible, adding it to enough pre-boiled cold water to produce 5 gals. When temperature of wort has dropped to 70° F, pitch yeast starter. Ferment out and follow normal secondary fermentation and bottling procedures.

#1 – Golden Ale

Add 1 lb. Belgian cara-pils or British carastan malt to the base.

#2 – Pale Ale

Add 1 lb. Belgian cara-Vienne or British crystal or American crystal to the base.

#3 – Richer Pale Ale

Add as for #2, but in addition, add 2 oz. British black malt.

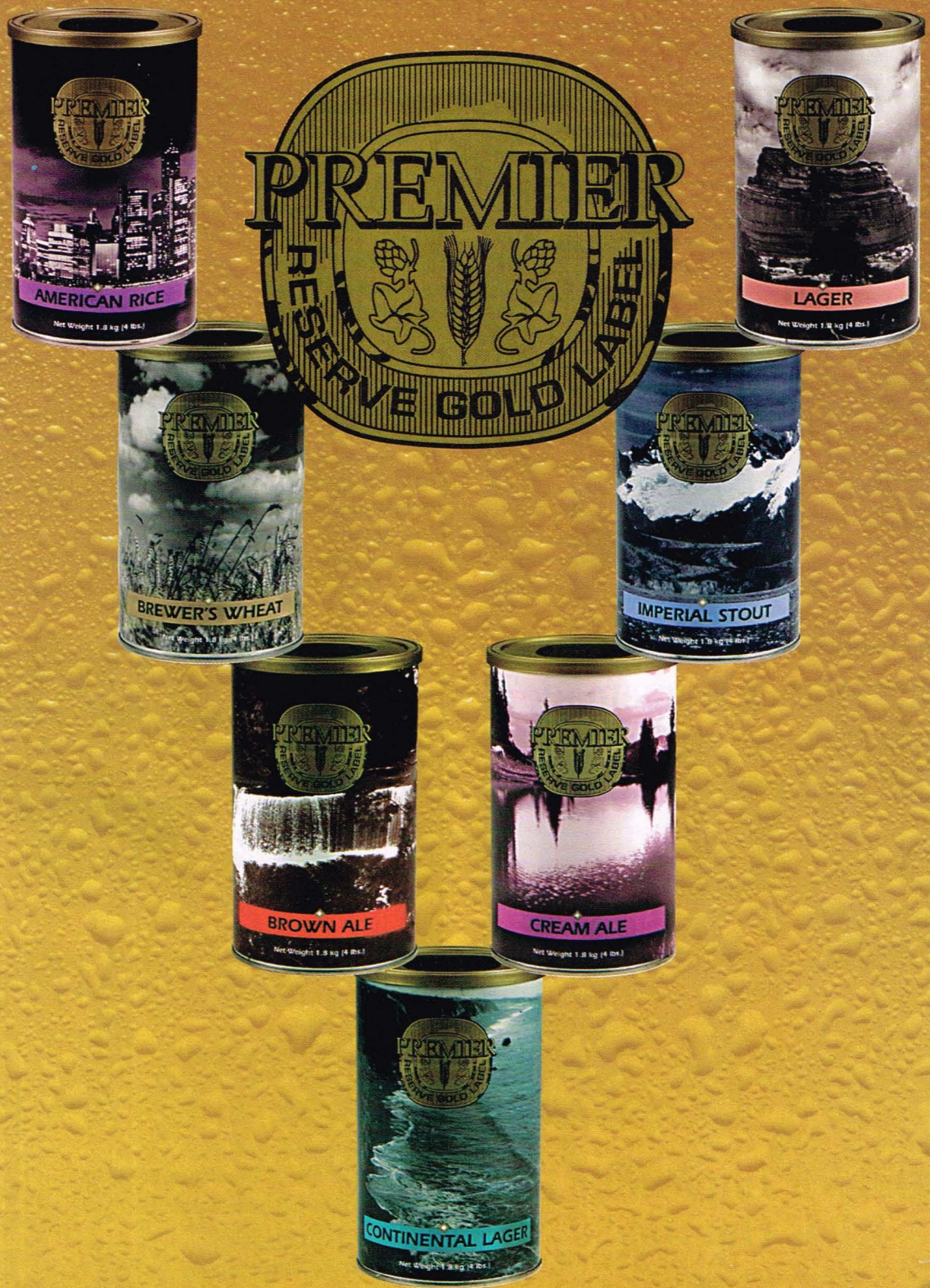
#4 – Even Richer Pale Ale

Add as for #2, but in addition, add 2 oz. Belgian Special B malt.

#5 – Porter

Add as for #2, but in addition, add 5 oz. chocolate malt.

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It will add some body and mouthfeel as well, but its most noteworthy character is its aroma. The aroma is a very strong, almost burnt caramel. Some people describe it as a sharp caramel aroma. Try playing with this malt in your recipes from pale ale to stouts.

Crystal malt: Crystal malts come in an array of color ratings, and they are very similar to the malts mentioned above. Crystal malts commonly have Lovibond ratings of 10 to 20, 30, 40, 45, 50 to 60, 80 to 90, 100 to 120, 130 to 150, and 160 to 180. They have flavor profiles that are similar to the cara-Vienne, cara-Munich, and Special B malts. The lighter in color the malts are, the less caramel aroma will be present. And as you get into the darker crystals, a nut-like aroma will be present. In the very darkest malts you may also perceive a toasty aroma. Go to your local homebrew store and smell all the malts so that you can get an idea of which ones you want to use.

All of these malts mentioned above were made into specialty malts by mashing them in the kernel. Therefore, they can all be used by extraction brewers without mashing them separately. Since their malting process was similar, they have certain characteristics in common that the non-caramelized malts don't have.

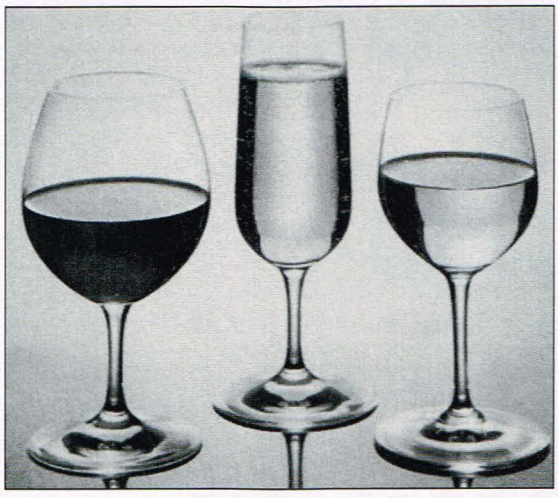
All of the caramelized malts have some amount of residual starch in them. This can cause a haze in your beer but will likely not affect the flavor adversely. These malts also have a fair amount of unfermentable sugars in them, called dextrins. Some people believe that these dextrins



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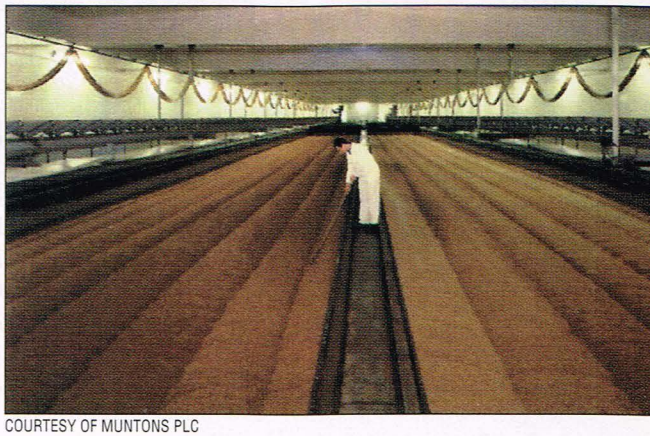
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give the beers made with these malts a sweeter flavor. However, scientific research does not always agree with this belief. You will have to make your own decision on this issue. The starch and dextrins do contribute to the mouthfeel and body of the beer. Finally, these malts all have more caramel aroma than the non-caramelized malts.



Grain is soaked in water to begin the malting process. It's then spread in germination boxes (right) to sprout.

COURTESY OF MUNTONS PLC

Non-caramelized Malts

Non-caramelized malts are not mashed in the kernel; you have to supply the mashing yourself. If you are an all-grain brewer, this is not a problem. Here, again, is a startling variety of malt.

Pilsen malt: This is a malt that is actually kilned at a lower temperature than normal malt. It was designed to make a light-colored beer without adding adjuncts, 1.4° to 1.8° Lovibond. This malt has a dry, crispy aroma to it. It is a good malt to use for your light-style beers. This malt has active enzymes, both proteases and amylases, in it.

Pale ale malt: This malt was designed to mimic the malt once used in England as the standard malt. It is kilned at a slightly higher temperature than the regular two- or six-row malt, but it still has enough enzyme activity to mash alone, or even with a little bit of other non-malted adjunct. The color is slightly darker than regular malt, 2.5° to 4° Lovibond. The aroma is stronger than regular malt and is a little bread-like.

Munich malt: This malt is darker than the pale ale malt, 5° to 7° Lovibond, and has a toasty aroma. It still contains some enzymatic activity but cannot be used at 100 percent of the malt bill. Use a grain bill of 50 to 75 percent Munich malt to make a Munich-style beer.

Aromatic malt: This malt is much darker than Munich malt, 17° to 21° Lovibond. It is kilned at a higher

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temperature, therefore it has less enzymatic power. It cannot convert a mash on its own. The aroma of this malt can be described as super-charged malt.

Biscuit malt: This malt was designed to have a cracker/bread-like aroma. It is slightly darker than the aromatic malt, 23° to 26° Lovibond. It is very limited in enzymatic activity.

Chocolate malt: This malt is kilned at a high temperature. It contains no enzymatic activity. Its color is usually 350° to 450° Lovibond. The aroma is somewhat like a burnt, non-sweet chocolate. This malt is an excellent adjunct for porters and stouts.

Black malt: This is one of the darkest malts you can find, 500° to 600° Lovibond or more. It is primarily used for making stouts and other dark beers. This malt imparts a roasted, astringent flavor to the beer. It will also lower your mash pH.

Roasted barley: While this is not a malt product, it is used quite extensively and deserves mention. It has a flavor that is similar to that of black malt but is a little bit more astringent. Its color rating is 450° to 600°-plus Lovibond.

Other Grains

There is one other group that might be included in your grain bill: non-barley malts and unmalted grains. The other major grains that are used are wheat, malted and unmalted; rice; corn; rye; oats; and to a lesser degree millet and sorghum.

Malted wheat can be used very much like malted barley. Many recipes for hefe-weizen-style beers use up to 60 percent malted wheat. Both malted and unmalted wheat give a dryer, more thirst-quenching flavor while seeming to be a bit more clingy on the tongue.

Both rice and corn are used to lighten the color of a beer and also reduce the cost of mass-produced beer. Rice can be used in reasonably high concentrations, 30 percent or more, without causing significant flavor changes. The major change is a lightening of the original flavor, possibly along with a banana-like flavor (increased amyl acetate production by the yeast).

Corn should be used a little more sparingly as it tends to add flavor to the beer in concentrations of 25 percent or more. The beers tend to have more fusel-alcohol (higher-alcohol) flavors (that could include medicinal flavors from the phenolic alcohols, a subtype of higher alcohol).

Rye gives a flavor similar to wheat but even dryer.

Oats are a favorite of oatmeal stout makers. The stouts made with about 10 percent oats tend to have a sweeter, smoother flavor. However, keep in mind that oats do contain more oil than the rest of the grains.

This is not a complete list of all the specialty malts. These are some of the most common malts. As a general rule, don't go crazy with specialty malts. For the most part you should be able to create the desired result in a recipe with four or fewer specialty malts.

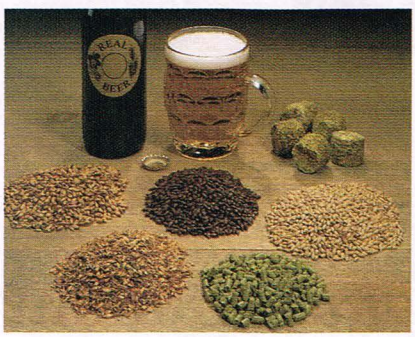
Non-caramelized malts can be used in the same way as caramelized malts but, because they are not already mashed, will not yield as much fermentable sugar if added at the boil stage. The lighter ones, however, will add starch to the wort, which can cause cloudy beer.

If you want to explore non-caramelized specialty malts, with the exception of those used in porters, stouts, and other dark beers, it may be best to make the jump to all-grain brewing.

Now that you have been introduced to the hows and whys of specialty malts, think of the beer as your canvas and the malts as your paint set, only this paint set affects your eyes, nose, and mouth. Go forth and paint a beautiful picture.

Randy Whisler is a brewer at River City Brewing Co. in Sacramento, Calif., and has an MS degree from the brewing program at University of California at Davis.

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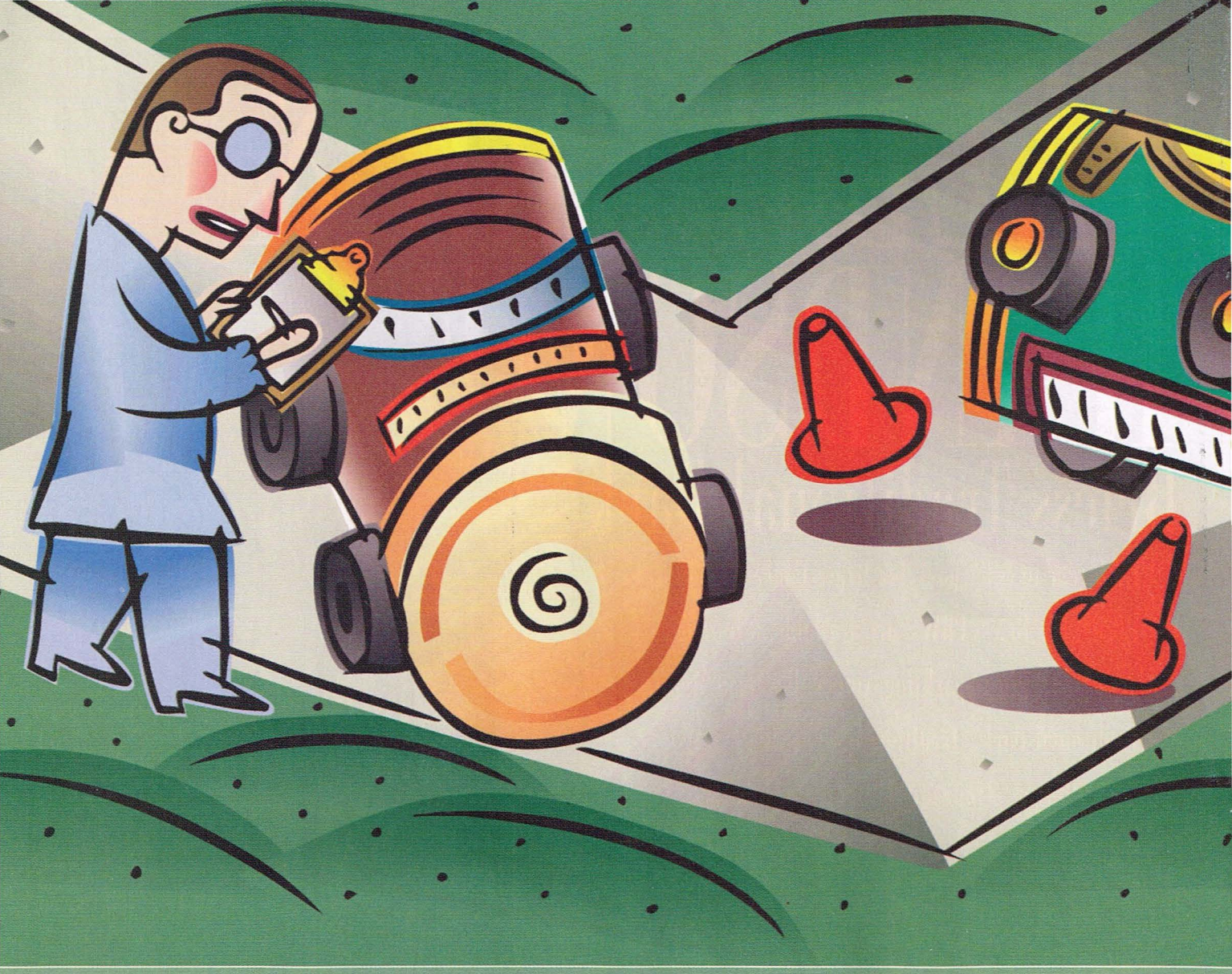
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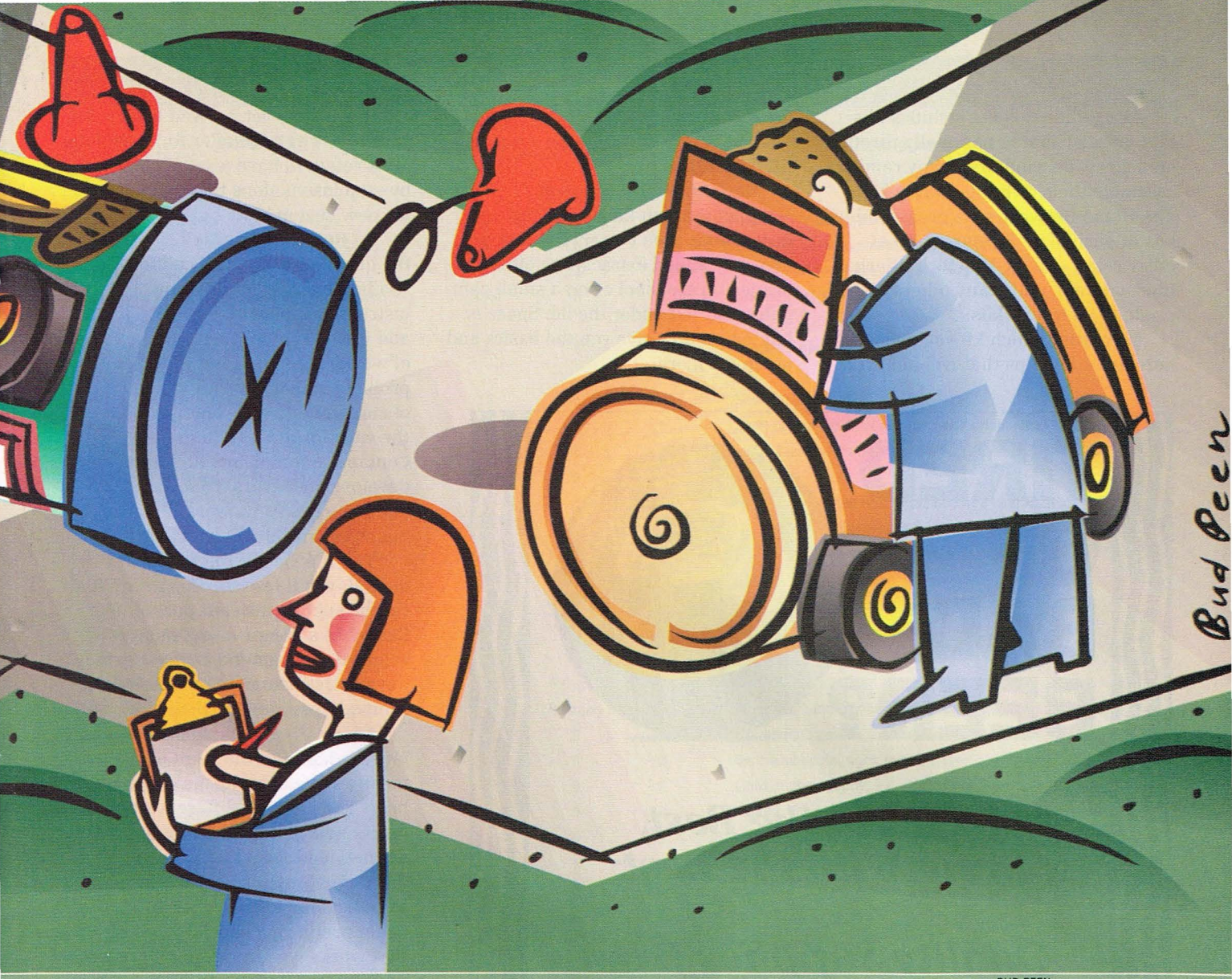
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175 GREAT HOMEBREWING KITS



BUD PEEN

For any veteran homebrewer the amazing thing about kits is the sheer variety available today. Not all that many years ago a homebrew shop might have carried a handful of kits: a "lager," a "dark," maybe a stout if the selection was especially good.

Today you can find a preassembled kit for just about every style you can name: classic pilsner, pale ale, porter, alt, even Belgian Trappist ale. There are even a few styles that, beyond the world of kits, don't exist. How do you classify, for instance, a Dutch lager? A Canadian ale? A New Zealand draft? None of these are listed in classic style books, but they're names of kits.

So the question is: How do you choose? We've assembled a quick reference of 175 of the most well-known kits on the market, with information on what's included in each kit and a short description of the beer it produces. For more detailed information on what kit would best match your taste, talk to your retailer.

Also, while this list includes kits that are distributed nationally through homebrew distributors, many retailers assemble their own top-quality kits. The Home Brewery sells preassembled kits at each of its 20 stores and at other retail outlets. HopTech, Bierhaus International, and many others also produce their own kits.

No matter which kit you choose, here are a few tips that will help you brew better beer.

Instructions

One of the most common complaints about kits is that the instructions aren't clear. The instructions on canned extracts are often printed on the label or on a small pamphlet inserted under the lid. Space is limited, so they give you the basics and not much more.

If you've never brewed before, be sure to ask your retailer for directions. Most retailers have a set of clear step-by-step instructions they've prepared for new customers.

To Boil or Not to Boil? That is the question. Many kits call for the "no boil method" of brewing. The instructions tell you, basically, just to add the extract to the proper amount of water, then pitch the yeast. The problem is that you run a high risk of contamination if you don't boil the wort for at least 10 minutes. Contamination means the beer develops off-flavors from wild yeast and bacteria. At its worst the beer might be entirely undrinkable.

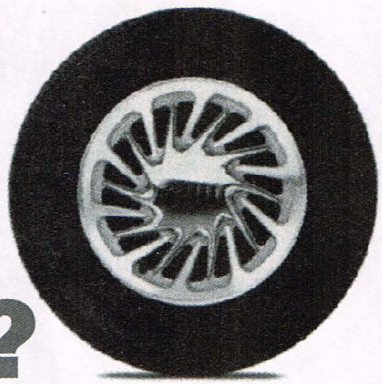
The flip side of this is that if you do boil, you'll lose the hop aroma that can be such a pleasant part of beer flavor. As a compromise, many retailers recommend a short boil and have their customers add their own aroma hops.

Lager vs. Ale: Just because your kit says lager on the front doesn't mean you're actually making a lager beer. The primary difference between lagers and ales is that lagers are fermented cold, usually in the range of 50° to 55° F, while ales are fermented at cellar temperature, 60° to 70° F. Lagers require a special yeast strain that works well in cold temperatures, and the lagering process generally takes longer than ale fermentation.

If your kit says "lager" but the instructions call for warm fermentation, your beer may taste great, but it won't be a lager. If that matters to you, ask your retailer for lager yeast and instructions on lagering.

Yeast. Virtually all kits come with dried yeast. The yeast becomes active and multiplies when it's added to a sugar solution. The best way to pitch this yeast is to create a solution before you pitch it. In other words don't just sprinkle the yeast on top of your wort in the fermenter. Instead take 3/4 cup of wort and pour it into a sterilized bowl or bottle. Cool by adding 3/4 cup cold water. When the temperature is below 80° F, add the yeast to it. Cover the solution with plastic wrap and let it sit until a foamy head develops, 15 minutes to half an hour. Then pitch the solution.

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Extract Kits

Name of Kit	Amount of Extract (lbs.)	Amt. of Yeast (g.)	Makes (gal.)	Descriptions*
AMBER ALE				
Brewferm Ambiorix	3.3	7	4	Red copper color, acidic palate, sweet aftertaste
Coopers Brewery Real Ale	4	5	5	Rich, light amber, smooth hop character
Edme Red Ale	4	5.7	3.6	Strong, rich malt flavor, underlying bitterness, dark red
Morgan's Brewing Co. Royal Oak Amber Ale	3.75	6	6	Smooth, full flavored
AMBER LAGER				
Iron Master Special Lager	4	5	5	Copper color
AMERICAN/PREMIUM LAGER				
Black Rock Colonial Lager	3.3	5	6	New Zealand style
Black Rock Dry Lager	3.3	5	6	Light colored, refreshing, dry, with crisp, clean finish
Black Rock Lager	3.3	5	6	Light, blend of hop varieties give bitterness and aroma
Brewmart Imported Dutch Lager	3.6	5	5	
Coopers Brewery Draught	4	5	5	Session beer, mild but noticeable hop character
Coopers Brewery Lager	4	5	5	Golden, lager smoothness
Diastaticshce-Laaglander Dutch Light Lager	4		5	
Edme Original Draught	4	5.7	6	Refreshing, light bodied, yellow-amber, light hopping
Geordie Lager	3.5	7	5	Light continental lager flavor
Glenbrew Lager	4.4	5	5	Crisp, refreshing, hop aroma
Mahogany Coast American Lager	4	5	5	Light lager, lightly hopped flavor
Morgan's Brewing Co. Blue Mountain Lager	3.75	6 (lager)	6	Pale, refreshing, light hop bouquet
Morgan's Brewing Co. Stockmans Draught	3.75	6 (lager)	6	Pub style beer, medium hopped, rich flavor and color
Mountmellick Light Lager	4	5	5	Full bodied, golden, creamy head
Muntons American Style Light Beer	3.3	6	6	Gentle, delicate, light, subtle flavor
Muntons Continental Lager	4	6	6	Light, amber, hoppy
Muntons Premium Lager	3.3	6	6	Golden, crisp, popular in Northern Europe
Premier Malt Products American Rice	3.3	5	5	Light bodied, sparkling, thirst quenching
Premier Malt Products Continental Lager	3.3	5	5	Full bodied, robust bouquet
Premier Malt Products Lager	3.3	5	5	Pale, light bodied, mild hop aroma
Telford Lager	3.3	5	5	
Vina-Brewmaker American Style	3.5		5	
Vina-Brewmaker Original Lager	3.5		5	
BARLEYWINE				
Muntons Barleywine	3.3	6	3	Extra strong for special occasions
BELGIAN ALES				
Brewferm Abbey Beer	3.3	7	2.4	Dark red/brown, full flavored, malt aroma, high alcohol
Brewferm Christmas	3.3	7	1.8	Heavy bodied, strong malt flavor/ aroma, matures well
Brewferm Diabolo	3.3	7	2.4	Golden, slightly sweet finish, soft palate, high alcohol
Brewferm Framboise	3.3	7	3.2	Raspberry beer, delicate aroma, refreshing
Brewferm Grand Cru	3.3	7	2.4	Strong grain flavor, little hop aroma, slight fruit taste
Brewferm Kriek	3.3	7	3.2	Cherry beer, slightly acidic, sweet, red copper tint
Brewferm Triple	3.3	7	2.4	Deep gold, high malt content, full bodied, herbaceous
Mahogany Coast Trappist Ale	4	5	5	Full bodied, amber, malty with good dose of hops
BITTER				
Black Rock New Zealand Company Bitter	3.75	5	6	Rich, strong, satisfying
Coopers Brewery Bitter	4	5	5	Amber, bold hop character
Geordie Bitter	3.5	7	5	Well hopped
Geordie Yorkshire Bitter	3.5	7	5	Creamy and full
Glenbrew Chairman's Trophy Bitter	7	5	5	Full bodied, pronounced hop bite
Iron Master Special Bitter	4	5	5	Old English bitter, improves with age
Mahogany Coast English Ale	4	5	5	Well hopped, full bodied
Muntons Old English Bitter	6.6	6	6	Full bodied, rich

* Descriptions provided by manufacturers

Extract Kits Continued

Name of Kit	Amount of Extract (lbs.)	Amt. of Yeast (g.)	Makes (gal.)	Descriptions*
BITTER CONTINUED				
Muntons Premium Bitter	3.3	6	6	Classic English style pub bitter
Muntons Traditional Bitter	4	6	6	Well hopped, rich malty flavor, classic English ale
Muntons Yorkshire Bitter	4	6	6	Smooth, easy drinking, typical of Northeast England
Telford Best Bitter	3.3	5	5	
Vina-Brewmaker Extra Strong Bitter	3.5		5	
Vina-Brewmaker Strong Export Bitter	4		5	
Vina-Brewmaker Traditional Bitter	3.5		5	
Vina-Brewmaker Victorian Bitter	4		5	
Vina-Brewmaker Yorkshire Bitter	3.5		5	
BOCK				
Black Rock Bock	3.75	5	6	Robust, full flavored, German style dark
Diastatische-Laaglander Dutch Bock	4		5	
Muntons Bock	4	6	6	Dark, character of a lager, German style
SuperBrau Dark Hopped	4	in extract	6	Very drinkable dark beer
BROWN				
Brewferm Old Flemish Brown	3.3	7	3.2	Dark brown with red tint, slight liquorice aftertaste
Iron Master Northern Brown Ale	4	5	5	Dark, slight residual sweetness
Mahogany Coast Nut Brown Ale	4	5	5	Creamy, full bodied, slightly sweet, dark brown
Mountmellick Brown Ale	4	5	5	Deep color, rich malt flavor, true to type
Muntons Nut Brown Ale	4	6	6	Dark, smooth, slightly nutty character
Premier Malt Products Brown Ale	3.3	5	5	Full bodied, mildly hopped, slightly sweet, malty
Telford Nut Brown Ale	3.3	5	5	
Viva-Brewmaker Northcumberland Brown Ale	3.5		5	
CANADIAN				
Bru-Mix Canadian Pale Ale	2.5/3.3	5	5	Pale, refreshingly hopped, robust malt body
Mahogany Coast Canadian Ale	4	5	5	Light ale, light touch of hops
Muntons Canadian Style Beer	3.3	6	6	Slightly hoppy lager style, popular in Canada
CREAM ALE				
Premier Malt Products Cream Ale	3.3	5	5	Effervescent, very pale, lightly hopped
DARK ALE				
Morgan's Brewing Co. Ironback Dark Ale	3.75	6	6	Hearty, caramel flavor, deep aroma, nutty overtones
Morgan's Brewing Co. Yukon Brown Smoked Ale	3.75	6	6	Deep, chocolate nutty flavor, hint of smoke
Muntons Old Conkerwood Black Ale	7.2	6	6	Black, aromatic hoppy character
DUNKEL				
Brewmart Imported Austrian Dunkel Bock	3.61	5	5	
EXPORT				
Geordie Scottish Export	3.5	7	5	Well hopped, distinctive aromatic flavor
Glenbrew Export	4.4	5	5	Scottish export
Iron Master Export	4	5	5	Dark amber color
Mountmellick Export Ale	4	5	5	Copper color, full bodied, rich flavor
Telford Export	3.3	5	5	
Vina-Brewmaster Northern Original Export Ale	3.5		5	
LIGHT ALE				
Black Rock New Zealand Draught	3.3	5	6	Full malt draft
Iron Master American Light	4	5	5	Lightly hopped, delicate flavor
Lallemand Doric Extra Light	2.5	5	4	Lighter, more mellow, easy quaffing
Lallemand Doric Light	2.5	5	4	Light, English style, bold yet fruity
Muntons Smuggler's Special Premium Ale	7.2	6	6	Light, pale, malty with aromatic and bittering hops
MILD ALE				
Black Rock Mild	3.3	5	6	Medium-light color, low hopping levels, smooth, mild



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CIRCLE 13 ON READER SERVICE CARD

Extract Kits Continued

Name of Kit	Amount of Extract (lbs.)	Amt. of Yeast (g.)	Makes (gal.)	Descriptions*
MILD ALE CONTINUED				
Geordie Mild	3.5	7	5	Dark, slightly sweet, hopped
Muntons Midland Mild Ale	3.3	6	6	Dark, sweet, subtle
Vina-Brewmaker Shire Mild	3.5		5	
MISCELLANEOUS				
Brewmart Imported Normandie Cider	3.6	5	5	
PALES				
Black Rock East India Pale Ale	3.3	5	6	Medium hopping
Edme English India Pale Ale	4	5.7	6	Clean malty flavor, distinct bitterness, med. mouthfeel
Glenbrew Pale	4.4	5	5	Produced for export to India
Iron Master Imperial Pale Ale	4	5	5	Pale amber, hint of crystal malt
Mahogany Coast India Pale Ale	4	5	5	Crisp, dry, straw color, very hoppy
Muntons India Pale Ale	6.6	6	6	Refreshing, thirst quenching, light
Muntons India Pale Ale Bitter	4	6	6	Light, delicately balanced
SuperBrau Amber hopped	4	in extract	6	Rich, Bass type ale
Vina-Brewmaker India Pale Ale	3.5		5	
PILSNER				
Black Rock Export Pilsner	3.75	5	6	Traditional Czech beer in Pilsner style
Brewferm Gold	3.3	7	3.2	Comparative with Scandinavian deluxe pilsners
Brewferm Pilsner	3.3	7	3.2/5.3	Light, blond, low alcohol, commercial lager style
Brewmart Imported German Pilsner	3.6	5	5	
Brewmart Imported Czech Pilsner	3.6	5	5	
Brewmart Imported Danish Pils	3.6	5	5	
Brewmart Mexican Cerveza	3.6	5	5	
Edme Classic Pilsner	4	5.7	6	Smooth, clean, underlying maltiness, hop tang
Glenbrew Bavarian Pilsner	7	5	5	Clean tasting, golden
Mahogany Coast Berliner Pils Lager	4	5	5	Clean, malty, pleasant hop nose
Muntons Continental Pilsner	6.6	6	6	Light, delicate, richly satisfying, European style
Muntons Export Pilsner	4	6	6	Full bodied for the more discerning palate
Muntons Pilsner	4	6	6	Light, refreshing, thirst quenching
Muntons Premium Pilsner	3.3	6	6	Light, delicate, thirst quenching
SuperBrau Light Hopped	4	in extract	6	Bold hop flavor and aroma
Vina-Brewmaker Pilsner Lager	4		5	
PORTER				
Cooper's Brewery Classic Old Dark	4	5	5	Medium dark, satin finish
Mahogany Coast London Porter	4	5	5	Hoppy, medium bodied, dark
Muntons Docklands Porter	6.6	6	6	Full malt flavor, light hop character, dark rich color
Telford Porter	3.3	5	5	
SCOTTISH STYLE ALE				
Glenbrew Scottish Heavy	4.4	5	5	Classic Scottish dark, sweet
Muntons Highland Heavy	6.6	6	6	Rich, dark, hoppy
Muntons Scottish Style Heavy Ale	3.3	6	4.5	Full bodied, satisfyingly dark, hop overtones
Vina-Brewmaster Scottish Heavy	4		5	
STOUT				
Black Rock Miner's Stout	3.75	5	6	Dark, smooth, West Coast coal miner's meal
Cooper's Brewery Stout	4	5	5	Mild, classic Australian polish
Diastaticshce-Laaglander Irish Stout	4		5	
Edme Extra Stout	4	5.7	3.6	Irish, full bodied, slightly smoky, bitter/sweet notes
Glenbrew Irish Stout	7	5	5	Blended barley and crystal give bitter tang
Glenbrew Stout	4.4	5	5	Smooth, Scottish stout
Iron Master Irish Stout	4	5	5	Dry, roasted barley aroma
Mahogany Coast Irish Stout	4	5	5	Full bodied, velvet touch

Extract Kits Continued

Name of Kit	Amount of Extract (lbs.)	Amt. of Yeast (g.)	Makes (gal.)	Descriptions*
STOUT CONTINUED				
Morgan's Brewing Co. Dockside Stout	3.75	6	6	Full bodied, rich roast flavor, residual bitterness
Mountmellic Irish Stout	4	5	5	A superb entry from Stout's spiritual homeland
Muntons Export Stout	4	6	6	Dark, strong, hoppy
Muntons Imperial Stout	6.6	6	6	Full bodied, rich, black color, distinctively dry/ bitter
Muntons Irish Style Stout	3.3	6	6	Very dark, very hoppy, rich
Premier Malt Products Imperial Stout	3.3	5	5	Strong, dark, rich, hint of molasses, unsurpassed body
Telford Shamrock Stout	3.3	5	5	
Vina-Brewmaster Irish Type Stout	3.5		5	
STRONG ALE				
Diastaticshce-Laaglander Traditional Strong Ale	4		5	
Muntons Old Ale	3.3	6	1.8	Rich, warming, aged flavor, served in one-third pints
WEIZEN/ BAVARIAN WEISS				
Glenbrew Weiss Beer	7	5	5	Authentic German style wheat
WHEAT				
Brewferm Wheatbeer	3.3	7	4	Very pale, honeytype, opaline, low alcohol, sweet nose
Edme Wheat Beer	4	5.7	6	Clean, smooth, straw color, slight clove nose
Mahogany Coast Wheat Beer	4	5	5	Traditional, cloudy, thirst quenching
Morgan's Brewing Co. Golden Sheaf Wheat Beer	3.75	6	6	Golden, highly aromatic, Weiss style, vanilla overtones
Muntons Wheat	4	6	6	Balance of wheat and barley, crisp, refreshing
Premier Malt Products Brewers Wheat	3.3	5	5	Golden, mild clove aroma, creamy head

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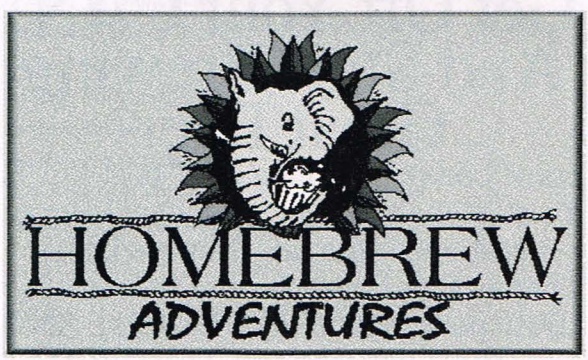
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Concentrated Wort Kits

Name of Kit	Amount of Extract (lbs.)	Amt. of Yeast (g.)	Makes (gal.)	Descriptions*
Barons World of Beer American Lite	4.6	7	6	Low alcohol, straw color, smooth, mellow flavor
Barons World of Beer British Export Strong Bitter	8.2	7	6	Rich, chestnut color, slightly high hop bitterness
Barons World of Beer British Nut Brown Ale	8.5	7	6	Deep chestnut color, full bodied, roasted malt flavor
Barons World of Beer Canadian Draught	5.8	7	6	Creamy, golden, lightly hopped
Barons World of Beer Canadian Golden Ale	5.8	7	6	Pale, malty, well-balanced
Barons World of Beer Canadian High Test	6.3	7	6	Smooth, flavorful, robust, bold, high alcohol
Barons World of Beer Canadian Lager	5.8	7	6	Clean, cool, effervescent
Barons World of Beer Canadian Pilsner	5.8	7	6	Light color, full flavor, smooth finish
Barons World of Beer Continental Lager	8.3	7	6	Classic, European flavor and color, firm bitterness
Barons World of Beer German Bock	9.9	7	6	Full bodied, smooth, malty, roaostedcoffe undertones
Barons World of Beer Japanese Dry	5.8	7	6	Light, easy drinking, little aftertaste
Barons World of Beer Indian Pale Ale	9.1	7	6	Rich, noticable hop character, bitter, malty undertones
Barons World of Beer Irish Stout	9.9	7	6	Full bodied, rich, creamy, roasted, assertive flavor
Barons World of Beer London Porter	9.0	7	6	Thick, opaque, rich, robust textures, roasted flavor
Barons World of Beer Mexican Dark	8.3	7	6	Fully developed flavor, deep tawny hue, crisp ending



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CIRCLE 80 ON READER SERVICE CARD

Concentrated Wort Kits Continued

Name of Kit	Amount of Extract (lbs.)	Amt. of Yeast (g.)	Makes (gal.)	Descriptions*
Barons World of Beer Scottish Mild	8.3	7	6	Dark, rich, light flavor, lightly hopped, well balanced
Brew House American Premium Lager	3 gal	none	5	Light color, delicate hops, smooth
Brew House ESB	3 gal	none	5	Subtle malty sweetness, traditional British hops
Brew House European Pilsner	3 gal	none	5	Malty, flavorful, clean grainy character, Czech Pilsner
Brew House Munich Dark Lager	3 gal	none	5	Rich, full, malty sweetness balance with German hops
Brew House Pale Ale	3 gal	none	5	Copper color, clean finish, plenty of Cascade hops
Wort Works Black Bison Bock	9.8	7	5-6	Deep, dark, balanced, full bodied, full flavored
Wort Works Black Forest Lager	9.1	7	5-6	Munich dunkel style, rich color, hint of sweetness
Wort Works Bohemian Pilsner	8.3	7	5-6	Deep golden, medium maltiness, crisp finish
Wort Works Northern Prairie Wheat Ale	8.3	7	5-6	Pale yellow, full bodied, slight bitterness, refreshing
Wort Works Redwood Canadian Ale	8.3	7	5-6	Copper, cream ale, Canadian hop flavor and aroma
Wort Works Richter Scale Amber Ale	8.3	7	5-6	Reddish, malty, rich flavor and body, slight bitterness
Wort Works Royal Pale Ale	8.3	7	5-6	Traditional English ale, deep, rich color, hop bitterness
Wort Works Steamship Lager	6.7	7	5-6	Smooth, clean, crisp, pale, slight hop bitterness

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Maybe that imagery explains, at least in part, why oatmeal stout is becoming so popular among homebrewers and other beer aficionados. After all, what do you see when you close your eyes and think about brown ale?

Another reason oatmeal stout is gaining popularity is that with its uniquely smooth texture and its rich, roasted, chocolate flavors, it simply tastes great.

This style was brewed through the 1950s in England, but lost popularity and eventually became extinct. Samuel Smith's Brewery of

by Stephen Galante

Yorkshire brought it back into production in 1980. Subsequently more and more breweries and microbreweries have offered their own versions of oatmeal stout, including Young's, Anderson Valley Brewing (Barney Flats), and Breckenridge to name a few.

Homebrewers have long sought to brew oatmeal stout, which is a variation of a sweet stout or "cream stout." To be true to the style, brewers typically use English two-row pale ale malts. The chocolate taste comes from chocolate malt, the roasted taste comes from roasted barley, and the hints of caramel from crystal or caramel malts.

Typically, oatmeal stouts do not specifically taste of oats. However, the oats impart the well-known smoothness because of their high content of proteins, lipids (includes fats and waxes), and gums. The gums increase the viscosity and body of the beer. The oatmeal is an unmalted grain, as is the roasted barley. So oatmeal stouts do not satisfy the German beer purity standard, the Reinheitsgebot.

Oats

The oat content of many common commercial and all-grain homebrewed oatmeal stouts is 5 to 10 percent of the grist (all the grain material, malted or unmalted) by weight. This percent represents a compromise between taste and practicality. Because the oats enhance viscosity, the more oats used in all-grain brewing, the slower and more difficult is the sparge. Sparging can take up to twice as long for the oatmeal stout compared with more traditional ale styles.

A slow sparge can be a nuisance to commercial brewers, who have production schedules to meet. However, this is not as much of a concern for homebrewers, who do not have such constraints. Nevertheless, for the all-grain homebrewer, the higher viscosity can generate problems with a stuck runoff. This occurs in sparging when liquid drains from the lauter tun faster than it can flow through the grain bed, creating a vacuum near the bottom of the vessel. The grain bed then compacts in on itself and becomes impermeable to further flow of sparge water. But you can avoid the stuck runoff by lautering slowly and patiently.

Both Samuel Smith's and Young's are believed to use 5 percent oatmeal in their grist, which seems to be the minimum required in a single-step infusion mash to obtain the characteristic smoothness. Many brewers prefer to use an oats content of 10 to 20 percent for an even smoother taste. These higher levels can be used if a suitable temperature rest is used in the mash temperature profile to break down some of the gum content, allowing easier sparging. There is clearly an optimum range for the oat content.

Michael Lewis, professor of brewing science at University of California, Davis, illustrates this point in in his book *Stout* (Brewers Publications). He describes an experimental beer made

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- Hop/Extract Oil

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with 30 percent oatmeal that had an astringent taste, grainy flavor, and an unfilterable haze.

Hops

The bitterness level of oatmeal stouts is low to moderate. Fuggles, Cascade, Goldings, Northern Brewer, and Columbus hops are among those that have been used for the bittering. Hop flavor and aroma are usually minimal or nonexistent, but if present they should not dominate the flavor of the final beer.

According to the American Homebrewers Association style guidelines, an oatmeal stout has the following characteristics:

Original gravity (OG): 1.038 to 1.056

Final gravity: 1.008 to 1.020

Alcohol content (by weight): 3 to 4.8 percent

Bitterness: 20 to 40 IBU

A typical analysis of Samuel Smith's oatmeal stout yields the following:

OG = 1.048 to 1.050

Alcohol content: 3.6%

Bitterness: 28 to 32 IBU.

Brewing Oatmeal Stouts

Oats have no enzymes useful to mashing. They must be mashed (or partially mashed) with a malted grain for the starches to be converted. Like unmalted barley, the starches inside are hard and not readily usable, encased within the hard cellular structures of the grain. Without further processing they cannot be broken down by the malt enzymes.

For the starches within to be converted to sugar, the oats must be gelatinized prior to use. Gelatinization is basically a cooking process in which the hard kernel coating is broken and the starch granules are ruptured and released.

There are a few different kinds of oats available to the homebrewer. With flaked oats, also called rolled oats, the gelatinization is done by the manufacturer. This is done by softening the oats with steam and then passing them through heated pressure rollers into flakes. The grain husks are removed when the oats are rolled, and in this process the flake thickness can be controlled. The heat and pressure gelatinize the starches, and these grains can be added to the mash directly. The brewer does not need to cook these prior to mashing.

Rolled oats are available in the supermarket. It is best to buy the "quick cook" or "one minute" oats. These are identical to the traditional breakfast oats (which require longer cooking time), but the "quick oats" are cut into finer pieces. The resulting increased surface area allows the starches to dissolve more readily into the water. Special flaked oats, similar to the supermarket "quick cook" oats, are available in homebrew supply stores.

Steel-cut oats are the whole oat kernels, cut up but not gelatinized or processed in any other way. These are cheaper than rolled oats. For the starches in these to be usable, these

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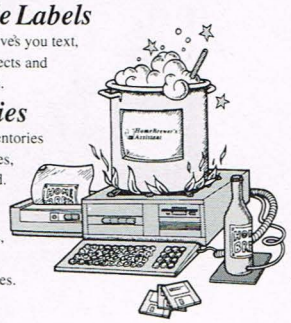
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oats must be cooked before use. This can be done by placing the oats in boiling water, two gallons of water per pound of grain. This mixture is boiled between 45 minutes and two hours, and must be stirred every five minutes. The gelatinization is complete when the liquid consistency becomes uniform. Because of the extra work and mess involved in the cooking process, you're probably better off with pregelatinized, flaked oats.

The Gum Content of Oats

The thick consistency of an everyday bowl of cooked, breakfast oatmeal results from the high gum content of oats. These gums consist of beta-glucans, which are essentially long chains of many glucose units linked together. The difference between these



beta-glucans and starches (which are also chains of glucose molecules) is in the structure of the bonds between the individual units. In well-modified malted grains, beta-glucan levels are low because these bonds are broken down during the germination phase.

In all-grain oatmeal stouts using 5 to 10 percent oats in the grist, the gumminess of the beta-glucans is usually not excessive, and a single-step infusion mash can be used. However, when using higher percents to get greater smoothness and body, you must reckon with the gums to do an effective sparge.

This is done by adding a second temperature step in the mash, called a beta-glucanase rest. The enzyme beta-glucanase works best in the temperature range of 104° F to 122° F. Holding the mash temperature for half an hour in this range before the saccharification rest is sufficient to reduce beta-glucan content significantly.

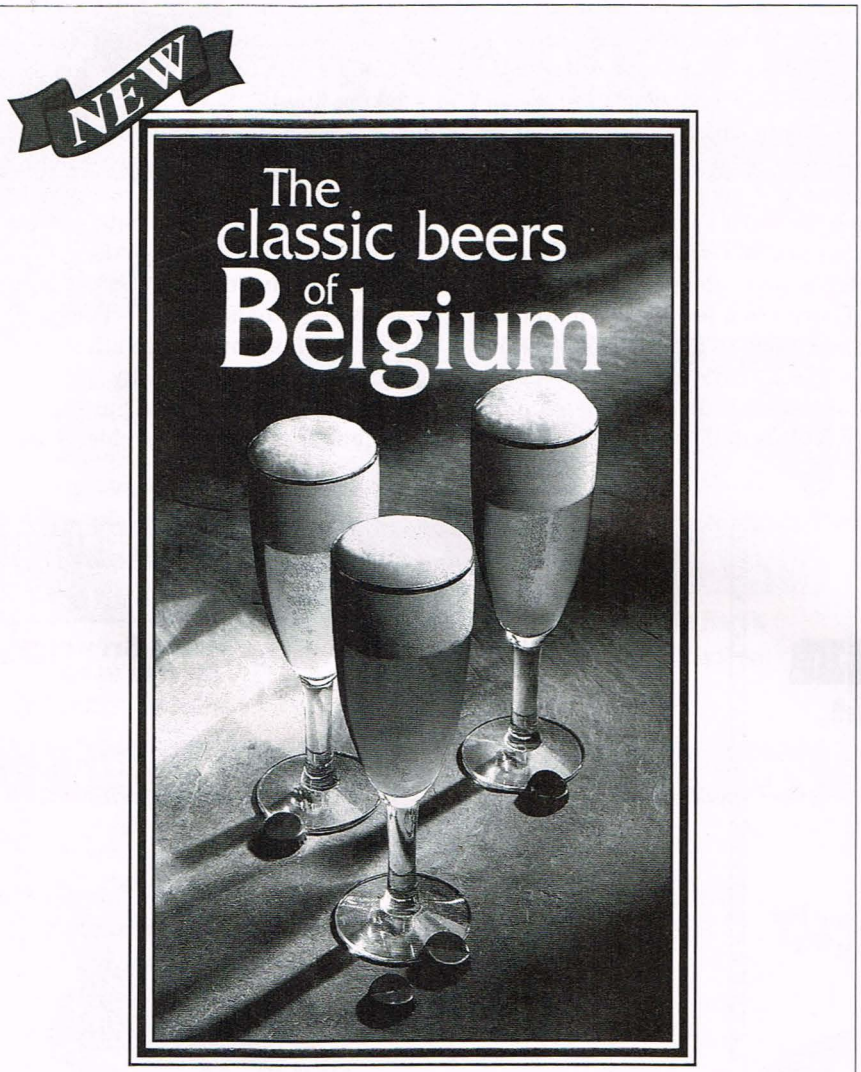
Recipes

Oatmeal Stout
(5 gallons, extract with grains)

The grains are mashed prior to the addition of the dry malt extract. The oats have a negligible enzyme content. Hence the American six-row barley with its high enzyme content is used to saccharify the oats.

Ingredients

- 6 lbs. amber, dry malt extract
- 1 lb. crystal malt, 60° Lovibond
- 1.5 lb. American six-row pale ale malt
- 18 oz. oatmeal (quick)
- 0.5 lb. chocolate malt
- 0.5 lb. roasted barley



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- 1/2 tsp. Irish moss, for 15 min.
- 2 oz. Fuggles hop pellets (4.2% alpha acid), for 45 min.
- Wyeast 1084, Irish ale yeast

Step by Step

Prepare a yeast starter a day or two before brew day.

Crush the specialty grains and malt, and mix them with the oats in a coarse, nylon bag. Tie up the nylon bag to seal it. Heat 3 gals. of water to 155° F in a pot with a lid and add the bag of grains. Keep this pot covered, maintaining a temperature between 150° and 158° F for one hour to convert the starch. This can be done, for example, by placing the entire pot in an oven preheated to 150° F. Remove the grain bag, and pour 1 qt. of rinse water over it and into the pot. This rinses some of the residual sugars from the grains.

In a separate pot bring 3 gals. of water to a boil for at least 15 min. Add 2 of these gallons to a clean, sanitized fermenter. Keep the other gallon of water covered, in reserve. Bring the wort to a boil, and slowly but vigorously mix in the dry malt extract. Boil the wort vigorously for 15 min. and add the hops. Boil for 30 more min. Add Irish moss and boil 15 more minutes. Total boil is 60 min. Cool the wort to room temperature within 30 min. of the end of the boil. Siphon the wort off of the trub, into the fermenter, adding the reserved water as necessary to bring the final wort volume to 5.5 gals.

Aerate the wort for 15 minutes. Mix the yeast starter into the wort. Seal the fermenter with an air lock, and ferment until completion.

OG = 1.054
IBU = 34

Oatmeal Stout
(5 gallons, all-grain)

The recipe specifies about 10 percent oats, for which a single-step infusion mash will suffice.

Ingredients

- 8 lbs. pale two-row English ale malt
- 1 lb. crystal malt, 60° Lovibond
- 18 oz. oatmeal (quick)
- 0.5 lb. chocolate malt
- 0.5 lb. roasted barley
- 1/2 tsp. Irish moss
- 2 oz. Fuggles hops for boiling (4.2% alpha acid), for 45 min.
- 1 pack Wyeast 1084, Irish ale yeast

Step by Step

Prepare a yeast starter a day or two before you start your brewing. Mix the crushed grains well in a clean, dry bucket. Heat 11 qts. of water to 174° F. Mash in slowly in stages, as described below. The temperature of the mash should be between 150° and 158° F. Within this range, higher levels give a less fermentable wort and a more full-bodied beer. Lower temperatures give a more fermentable wort. Acidify 5 gals. of sparge water to a pH of 5.7 using lactic acid. Homebrewing shops sell solutions of 88 percent lactic acid concentration. A stock solution of the acid may be prepared by mixing 2 tsp. into 3 cups of water. This stock solution can be stored, and using about 1/2 cup will



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reduce the pH of 5 gals. of tap water to nearly 5.7. Be sure to verify this using pH papers or some other means. Acidification prevents excessive extraction of husk tannins. Heat the acidified sparge water to a temperature at or just below 170° F. Maintain the mash vessel at temperature for at least 1 hour.

Mash out, raising the temperature of the mash to 168° F. To begin the sparge, slowly drain and collect 1/2 gal. wort from the lauter tun, then gently pour this back on top of the grain bed. Repeat twice more; this establishes the grain bed and produces relatively clear initial runnings of wort by filtering out any fine grain particles within the bed. Begin the sparge, maintaining the sparge water at or just below 170° F. Typically sparging for this recipes takes 45 min. to 1 hour. More time is needed if the oat content is increased. Collect 6.5 gals. of wort.

Boil the wort vigorously for 15 min. Add hops and boil 30 more min. Add Irish moss and boil 15 more minutes. Total boil is 60 min. Cool the wort to room temperature within 30 min. of the end of the boil. Siphon the wort off the trub into a sanitized fermenter. Aerate the wort for 15 min. Pitch the yeast starter. Seal the fermenter with an air lock, and let the fermentation proceed until complete.

OG = 1.052
IBU = 35

A Few Tips

Options: Try varying the amount of oats, roasted malts, chocolate malts, or the Lovibond rating of the crystal malts. Higher Lovibond equals more caramel, nutty flavors. Try different hops, too.

Sparging: The sparge rate depends on the geometry of the lautering vessel, the way the grain was crushed, the temperature of the sparge water, and the temperatures of the lautering vessel and grains themselves. Thus, homebrewers using the same recipe and procedure may experience different sparge rates. If the rate is too slow and it is not possible to do a beta-glucan rest, try using some six-row barley instead of two-row barley in the mash. The increased amount of husk material provides more void space in the grain bed for faster sparging. The tradeoff is that the extra husk material from the six-row barley may increase the bitterness level of the beer somewhat.

Should you desire to increase the amount of oats in the all-grain recipe, a beta-glucanase rest is probably necessary. This is done by heating the 11 qts. of water to 120° F, doughing-in the grains, and holding the temperature for 30 min. Then heat to mashing temperature, and proceed as described in the step by step.

Yeast Starter: Do not skimp and omit the yeast starter! The starter allows the wort to begin fermenting more quickly, reducing any chances for problems with bacteria. Also, the use of a starter allows the fermentation to proceed to completion with fewer reproduction cycles and fewer of the off-flavors brought about by reproduction cycles. Liquid yeast products usually give simple instructions for



CIRCLE 47 ON READER SERVICE CARD



CIRCLE 31 ON READER SERVICE CARD

making starters. This involves boiling 1/3 cup of dry malt extract with 1 pint of water for 15 min. This is cooled, aerated, and placed in a sanitized bottle, after which the yeast is pitched and an air lock is affixed. Common homebrewing references give more details on preparation of starters.

Aeration: Prior to pitching the yeast, aeration is required to give the yeast the necessary initial oxygen for metabolism. This is easily done with an aquarium air pump hooked to an aeration stone. The stone and the tubing should be well sanitized before they are placed in the wort. To avoid picking up bacteria from the air, put a small piece of sterile cotton on the air inlet of the pump. This method can cause the wort to foam and overflow the container, thus you should watch the wort closely.

Don't scoop the foam off and discard it. The foam contains many important compounds responsible for beer head development, such as proteins. Allow the foam to subside, add the yeast, mix it in, and proceed with the fermentation.

Oxidation: Some brewers have found that oatmeal stout oxidizes (stales) more readily than other styles, possibly because of the extra fat content from the oats. Be especially careful not to aerate the beer during or after fermentation, particularly in transfers and bottling. After fermentation has begun, the yeast metabolize anaerobically so the oxygen is unnecessary. Also, leave no more than 1 to 1.5 inches of air space in bottles. The more air space, the greater the tendency of the beer to oxidize and spoil.

Mash-in, Mash-out: The initial mixing of grain and water, called the mash-in or dough-in, should be done carefully, in multiple steps. If the mash-in is done too rapidly or the mixing is poor, the starches in the grains can ball up and will not undergo complete conversion. Do the mash-in in three or more steps. Start by adding about 1/3 of the water in the mash tun. Mix in about 1/3 of the grain, stirring for at least 60 seconds. Next an additional 1/3 of the water should be added, followed by another addition of the grain and another minute of mixing. This is repeated once more to fill the mash vessel.

Do not skimp and omit the mash-out. The mash-out at 168° F lowers the viscosity of the wort, making the sparge easier. Also, this halts all enzyme activity, ensuring that the dextrinous character of the wort will remain unchanged after mashing.

Stuck Runoff: If the dreaded stuck runoff does occur, there are two options to fix it. You can underlet the mash, using a pump to pump water back into the outlet of the lauter tun, into the bottom of the grain bed. This loosens the compacted grain bed, allowing the sparge to continue. If underletting does not work, simply mix up the grains in the lauter tun, pour the collected wort back to the lauter tun, restart the sparge, and begin again collecting the wort.

Before you know it you'll be enjoying the smooth taste of your own oatmeal stout. ■

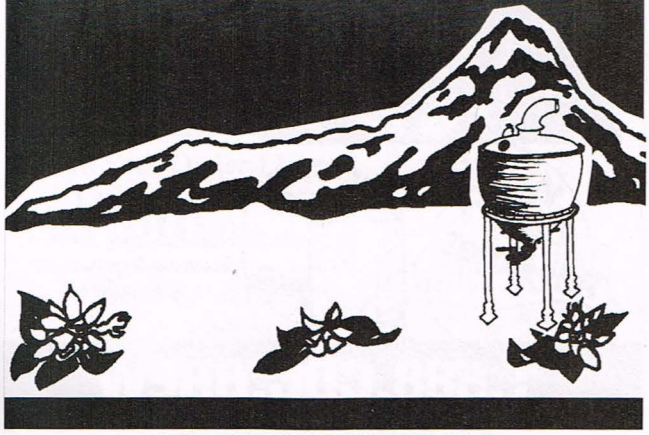
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Starter Guide to Decoction Mashing

by Alex Fodor

As brewing has evolved some techniques that were once considered essential have become obsolete. Decoction mashing, however, arguably maintains important aspects of crafting a well-respected beer. But its role has changed. In earlier days it was a necessary step in breaking down undermodified malts, which are less prevalent now. Today die-hard decoction mashers are convinced of decoction's finer attributes: that it makes a richer, more complex beer and adds a sense of tradition.

Before the development of modern malting techniques, two basic types of malt were produced. The difference between the two is based on modification, the degree of enzymatic degradation within the malt kernel. These two types of malt, the well modified and the undermodified, largely influenced the mashing procedure of the brewers who used them.

The well-modified malt of the British was perfectly suited for a single-temperature infusion mash. Because most of the degradation occurred during malting, British malt released its extract very easily. The same cannot be said for the undermodified malts of continental Europe, specifically Germany. These malts were less modified. The hard tips of the malt were evidence of undegraded barley.

In an almost Darwinian responsiveness, continental brewers developed a mashing method that compensated for their partially malted barley. Known as decoction mashing, this method compensates for a lack of enzymatic decomposition by removing one-third of the mash, boiling it, and returning it to the main mash to increase the main-mash temperature. This heat-intensive process breaks down chemical structures in the malt, making them available to enzymes in the mash.

Traditionally, the mash regimen called a triple decoction required three decoctions and four temperature rests: an acid rest at 95° F, a protein rest at 121° to 131° F, a starch conversion at 150° to 158° F, and a mash-out rest at 165° to 168° F. Today the less time-consuming double- and single-decoction methods are more common.

The double decoction usually starts with a temperature of 128° to 131° F that is increased to 152° to 155° F and finally 165° to 168° F by two decoctions. The single decoction requires only one decoction to raise the mash temperature either from the starting point, 128° to 131° F, to a mash-out at 152° to 155° F or from 152° to 155° F to mash-out at 165° to 168° F.

Modern malting techniques have made undermodified malt such as that formerly found in Germany very rare. Likewise, the process of decoction mashing is slowly becoming somewhat of a novelty in the brewing industry. No longer a necessity to convert modern malts, the process is also time consuming and expensive in terms of energy consumption. Still, some die-hard decoction brewers persist, claiming that the process yields more extract per pound of malt than other methods and creates a richer, more complex beer due to the flavorful melanoidins (dark organic compounds) produced by boiling the grains. For German brewers decoction mashing reflects a part of their brewing history. Continuing to carry the torch of decoction mashing in an age of streamlined, high-tech



A traditional German mashing method, decoction, evolved from the quality of malt once available to continental brewers.

brewing adds a sense of tradition and uniqueness to their products.

Homebrewing by decoction mash is an intriguing and challenging reenactment of a brewing tradition. The decoction mashing process, although appropriate for all German styles, best brings out the maltiness of dark German beers such as bock, Märzen, and dunkel. The following procedure details the process of a double decoction mash.

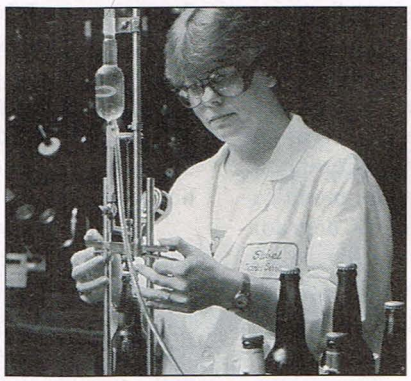
The protein rest. Mash the grains with the mash water to reach a temperature of 128° F (2.2 pounds of malt into 3 liters of 140° F water, for example). Mix thoroughly so that no clumps of crushed grain remain. During this step, called the protein rest, some protein as well as gummy beta-glucans may be degraded.

The first decoction. After the grains have been properly mixed (all clumps are gone and the temperature has stabilized), remove 30 to 40 percent of the mash by volume. This may be difficult to ascertain on the spot. By calibrating your mash tun with notches for every gallon, a more precise amount of mash can be removed. It is important to remove the thickest portion of the mash. Most of the enzymes are in the liquid portion and should remain with the main mash. A slotted spoon may help accomplish this. The decoction should then be placed in a pot and heated slowly to 158° F, where it is held for a 15-minute starch conversion rest. After the rest, slowly bring the decoction to a boil while stirring continuously to avoid scorching. Boil for 15 minutes. If the decoction becomes too dry, it will easily burn. Adding water and stirring will prevent this.

The starch conversion rest. By mixing the boiling decoction into the main mash, the total mash temperature is increased to a conversion temperature between 152° and 155° F. When adding back the decoction, mix the boiling grains into the main mash in increments. Be sure not to overshoot the desired temperature. Allow the main mash to rest undisturbed for 30 minutes before removing the next decoction.

The second decoction. Repeat the decoction procedure. The goal here is to raise the main mash temperature to mash-out temperature, 165° to 168° F. The wort recirculation, run-off, and sparge can then begin. ■

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Five Decoction Tips

- **Always stir the decoction to avoid scorching.**
- **Use an insulated mash tun to maintain rest temperatures in the main mash.**
- **Mix decoctions incrementally into the main mash to avoid overshooting target temperatures.**
- **Remove the thickest part of the mash for decoction, but allow enough moisture to avoid scorching. Add water if needed.**
- **Pay attention to time and temperatures and take good notes.**

A Day in the Life of a Beer Judge

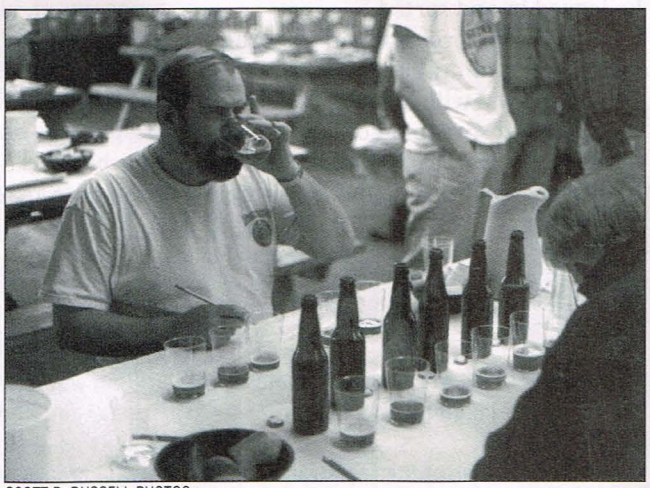
by Scott R. Russell

Discipline and moderation are the keys to being a successful judge. At least that's what one judge says....

One of the most common reactions I get when I mention that I'm a beer judge is, "Do you spit it out?"

Actually, it takes hard work and focus to judge beer. Beer judges have a mission, which is to improve the quality of beer on every level. If judging is better, homebrewing will get better. If homebrewing improves, consumers will demand better beer from commercial breweries. At least that's one theory.

Judges owe it to the homebrewers to be fair and helpful. Homebrewers submit their beers to these competitions to get expert opinions on how they're doing (above and beyond the potential for prizes and recognition, of course). It's the judge's job to analyze the quality of the beer, give advice on how to improve it, point out stylistic flaws or potential procedural defects, and so forth, as well as to encourage good work.



At a typical beer contest judges usually see the same 20 or 30 faces from other competitions in the same region.

SCOTT R. RUSSELL PHOTOS

It does take training, but above all it takes discipline. It would be really easy, faced with a dozen Belgian strong ales at 9:30 a.m., to surrender early and plan an afternoon nap. But no, you have to come back after lunch and judge a round of light lagers or (gods forbid!) brown ales, and then maybe you'll also get asked to participate in the Best of Show panel. So you have to moderate your early intake, pace yourself, and judge quickly and efficiently or your palate will be numbed before you get to beer number four.

I judged at one competition where I was wined and dined (beered and dined?) and sent home with lots of free souvenirs; another held in conjuction with an organic fair where coffee was as hard to come by as, well, beer in Saudi Arabia; a third that I drove to during a light snow, stayed to judge two rounds, and returned home in freezing rain and ice. I never got my truck home and ended up walking the last two miles uphill in the sleet.

In the year or so since I passed the Beer Judge Certification Program judging exam, I've learned three things about competitions: You see mostly the same 20 or 30 faces at all the competitions in one region, nobody wants to judge brown ales,



More than 200 entries were registered, processed, sorted, and judged by about 30 judges.

and some homebrewers are absolutely fanatical about making a lot of good beer.

One Saturday

This is the story of one judge's experience at one event, the Yankee Brewers Conference. Held last spring at Chick Orchards in Monnouth, Maine, it was the fifth in the series to determine New England Homebrewer of the Year. Chick Orchards is the site of the Cask & Hive Winery, makers of Chickadee Hard Cider, Cyser, and Mead. The competition was sponsored by the Maine Ale & Lager Tasters, the statewide homebrew club of Maine, and organized by Cask & Hive co-owner Bruce (or Brews, as he spells it) Stevens.

7:45 a.m.: Hit the road. I spent Friday night with my sister in Freeport, Maine, about an hour's drive from the site of the competition. I was on the road by about 7:45 a.m., leaving time for getting lost and planning to be there by 9 a.m. or so. The judging was to start at 9:30, and I was bringing over a few late entries that needed to be logged in and sorted.

I found the orchard with no problem, carried in my case of entries, and helped Brews' wife Marsha register, number, and sort some of the late arrivals. Brews quickly led us on a tour of the facilities, to indicate where the facilities in fact were.

9-9:30: Stand around. After the tour we stood around, 30 or so judges, with coffee and muffins, waiting to get going.

9:30: Swear to be good judges. Brews opened the festivities by having us all take a pledge of responsible behavior and then introduced Andy Hazen, owner and brewmaster of Andrew's Brewing, Lincolnville, Maine, who spoke to us about the perils of "starting small." His advice: "don't" — find the money and do it right from the beginning.

10 o'clock: Receive assignments. Assignments were given and panel number one got under way. My judging partner was Kit Anderson, and we drew "light lagers," along with Martin Stokes and Bill Giffen. We divided up the 16 or so entries between the two pair. Bill and Martin took Munich helles and American light lagers, Kit and I started on Dortmunds and pilsners, aided by our steward Sam.

10:15: Start sipping. To our amazement, silently and independently, Kit and I arrived at the same score for the first beer. It looked like it was going to be an easy day! Tasty, crisp-but-a-bit-too-hoppy pilsners, thin-bodied-for-style Dortmunds, and one nice Saaz-y Czech pils. We got

Competition MVPs

In any competition there are a couple of key players who get little if any recognition but without whom no competition could go on, let alone run smoothly. One is the entry coordinator/registrar. The other is the steward.

The registrar has to:

- Check all the entry forms for accuracy
- Categorize and label all the entries with an anonymous code to preserve the "blindness" of the judging
- Make sure entries are stored properly, allowing them to be served by the stewards at the proper temperature and in good condition
- Divide large categories or combine small categories to make judging more efficient
- Tally all scores and coordinate return of the judging forms to the homebrewers

The functions of the registrar, if performed correctly, allow judges to think only about tasting and analyzing. We don't have to try to decide which beers to judge or what category they belong in. In addition because the tasting is "blind," we can be completely objective about the beers because we have no idea who brewed them.

The steward, during the competition, is the MVP. Most competitions provide one steward for each panel of judges. Stewards have the job of presenting the entries to the judges, keeping track of the entry number codes, opening and pouring the beers, refilling water pitchers and bread baskets, getting forms, cups, and other supplies as needed. Again, the good steward creates an atmosphere in which the judges can concentrate on their job, judging.

Many judges have their own preferences, such as wishing to inspect the bottle and pour their own beer, but this doesn't interfere with or diminish the steward's importance during the competition.

Most judging panels will also encourage the steward to taste along with them (this is great training for a future judge). The one thing a steward cannot do is give his or her own impressions before the judges have scored the beer they are judging.

through our half of the category, no controversies, no horrible beers, and then compared notes with Bill and Martin. We then did a runoff to determine the best three beers in the category, retasting our best two and their best three, and then ranked all the beers from 1 to 16.

We were warned by Brews that there were commercial entries in this competition, so the ranking was particularly important (the commercial beers are not counted in the homebrew competition awards but scored against each other in a separate class, even though they are judged blindly by the same panels doing the homebrews). As it turned out later, two of our top three were in fact commercial brews, so it was actually our numbers two, four, and five that ended up with ribbons at day's end.

11:45: Lunch (yes, with beer!). We broke for lunch, wandering around discussing the orchard, the plans for the post-competition party, and where in Maine to get a good beer (lots of possibilities there!). Lunch consisted of pot-luck: chili, seafood gumbo, salads, and so forth. Lots of spicy food, and the question begged to be asked: Would it spoil the palate? Not only that, but they had started the barbecue pit for the roast turkey and venison planned for dinner and the smoke kept wafting through the door into the hall where we were judging. Nonetheless, there were a couple of kegs of beer donated by a couple of the breweries that had entered the commercial class, and we sampled them with lunch.

For the Best of Show panel, organizers try to get high-ranking judges, well-known judges, or judges who have traveled a long way.

Lunch outside, on picnic tables, in the Maine spring sun. For most of us, this was the first outdoor meal of the season (it was early April in New England, after all...) and we relished the warmth, reluctant to go back in. But duty called.

1:30 p.m.: Back at it. Kit and I were paired again, and our steward Jim brought out smoked beers and fruit beers, two distinct categories that were collapsed together due to small numbers. A couple of smoked porters, one of which I recognized as the signature beer of the Vermont Pub & Brewery; a nice, delicate pear-flavored light lager (our eventual blue ribbon winner); a raspberry Munich helles; a raspberry imperial stout; and a classic rauchbier. It's a tough category to judge, but what a wide range of flavors!

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The most pressing question at any competition: Who will judge the brown ales?

seven beers to rate and number, we had time for air before the next round. Out into the orchard, walk around, talk about beer.

2:45: Another round? Tom O'Brien, coordinator of judging, suggested to me that since I was done, maybe I'd like to do another panel. Instinctively I said sure, I'd love to, but then it turned out there were only two categories left. Spiced beers, in which I had entered something, and — guess what — brown ales. Oh well, live and learn. Next time I'll judge more slowly.

So Kit, Jim, and I went back to the table, and out came the brown ales. Milds, northern browns, southern browns, American browns. Somehow we got through it, in fact finding a couple of quite nice brews.

3:45: No more! With the last brown ale rated, we headed back outside, stood by the barbecue for a while talking beer and bars, sports and weather, telling jokes, and then out came the cigars. Three or four portable humidors circulated. Out of 20 people standing around, at least 17 had a cigar. We hoped none of us would get asked to do the Best of Show round!

4:15: Best of Show. Brews came outside and began to try to round up a Best of Show panel. Normally, organizers try to get high-ranking judges, well-known judges, or judges who have traveled a long way to get to the competition for the BOS panel. Since I was one of two judges there from Vermont (and the other was inside working on strong ales), Brews asked me to do BOS (I would have to overcome the cigar afteraffects). Five minutes later Brews tapped me on the shoulder and expressed his condolences: I couldn't do Best of Show after

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all; I had one on the table.

This is one of those double-edged swords. On the one hand I was thrilled to be in the running for Best of Show. On the other hand I would dearly love to do a Best of Show round. After all, that's where the best beers are, right? So what do you do, not enter any good beers with a chance of winning?

5:30: The end. In the end, after a complete tour of the orchard, processing and sorting plant, apple-storage rooms, cider press, and meadery, we returned to the hall and the awards were presented. I got a third place in spiced beers (for a light gingered ale) and a first in Belgian ales for my oud bruin. The oud bruin also ended up second runner-up for Best of Show.

Category winners took home bags of malt, brewing chemicals, equipment, T-shirts, and a couple of lucky winners (including BOS winner Tom O'Connor) took home autographed copies of the Seven Barrel Brewery Brewer's Handbook.

Judging Beer
Step by Step

1. Look at the bottle. Does it show signs of contamination? Is there yeast sediment? Is the beer clear? Is the cap rusty?
2. Open and pour. How's the carbonation level? Does it gush or overflow the glass? Does the yeastcake stay put?
3. Examine the appearance. Is the color right for the style? Is the beer clear (as per style)? Does the head stay or fall back?
4. Swirl the glass gently. Does Brussels lace cling to the glass? Does it foam back up?
5. Smell. What aromas do you get at first? Hops? Malt? Yeasty or fruity aromas? Off-aromas such as diacetyl, phenolics, higher alcohols? Dimethyl-sulfide? Spices, fruit, or smoke, for those styles?
6. Sip, swish beer around the front of the mouth and back to the throat. Is the carbonation level distracting? Is it astringent, bitter, sweet, sour?
7. Take another sip, concentrate on malt and hop flavors. Are they appropriate to style? How about the body: too thin, too thick? With some beer still in your mouth, breathe out gently through your nose. What aromatics do you get? Swallow. Does it leave an aftertaste?
8. Overall impressions: Would you want to drink this beer again? Would you buy it?
9. Now analyze, based on style descriptions: Does this beer match the standards against which it should be measured? Even if it's a great tasting, very drinkable beer, is it truly in style?

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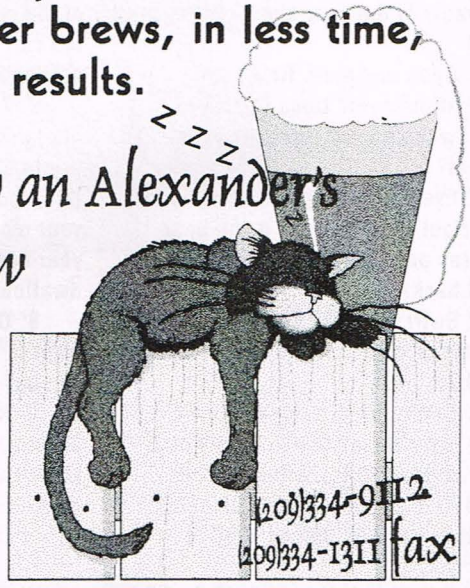
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Entering a Competition

Usually a competition asks for three 10- to 16-ounce bottles, without labels or distinguishing marks. Why three? One for the first round, one for a run-off in the category if necessary, and one for the Best of Show round. Of course most beers only ever need the one bottle. But it's best to be prepared. Also, sometimes there is a problem in shipping or in handling at the competition site, and a second bottle can assure that a beer is judged properly.

The entrant fills out an entry form and a bottle identification label (held on by an elastic band and removed before the competition). Most competitions have a deadline one or two weeks before the date of the judging; others allow entries right up to the morning of the competition, which can make for a hectic last few minutes if the organizer is not as organized as he should be.

Some competitions ask for a recipe along with the beer. Others ask only for category or style information. Most reserve the right to ask for the recipe afterward. Many competitions provide a convenient drop-off point for entries, such as a local homebrew supply store or a brewery. Almost all competitions allow you to mail or ship your entries.

I'm given to understand that competitions reflect the personality of their organizers (just like dogs their owners). MALT, Brews Stevens, and Tom O'Brien are to be commended for a job well done. On the surface, things looked a little loose, chaotic, scattered. But everyone got their judging done, more than 200 entries were registered, processed, sorted, and judged by some 30 or so judges and stewards, we were all well fed, appreciated, and entertained. A friendly atmosphere reigned over the whole day and boy, there was some good beer. ■

Scott Russell is co-author of the Seven Barrel Brewery Brewers' Handbook, published by G. W. Kent Inc.

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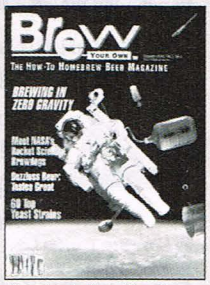
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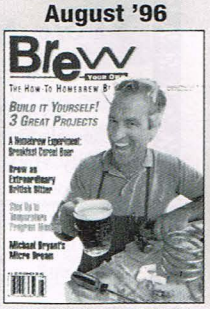
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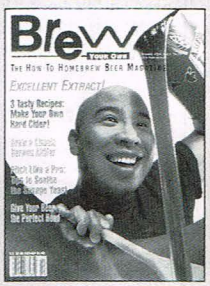
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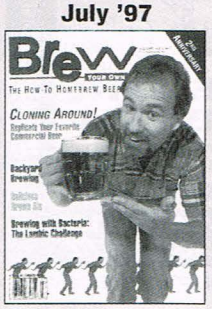
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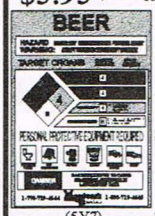
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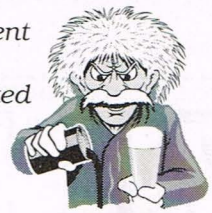
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CIRCLE 8 ON READER SERVICE CARD

True to Style at Stone City

by Stan Hieronymus and Daria Labinsky

An outsider wouldn't expect to discover much good craft beer in Iowa, a state best known for pigs and corn. Yet go to the American Legion hall in Solon, population just more than 1,000, and you'll find World War II veterans drinking beer like that found in Germany.

Rather than brewing a light-leaning beer to appeal to mainstream tastes, the partners in Solon's Stone City Brewing Co. decided to make a distinctive product. That doesn't mean they've gone with massively hopped beers as in the Northwest or the big, malty beers that homebrewers delight in making. Instead they sell classic, true-to-style lagers and ales that are unfiltered and bottle conditioned.



Skeptics told brewer Jeff Allen, "You'll never sell beer with mud in the bottom." But while it took some time to educate retailers, there have been no complaints from consumers.

Take last year's Solon Beef Days, held just after the brewery opened in July 1996. When festival goers wandered into the brewery, partner Mark Brower would say to them, "Just try this. I'm going to give you *free beer.*" The visitors would move on to the festival beer tent only to return to the brewery and announce that they needed a *real* beer, Brower says.

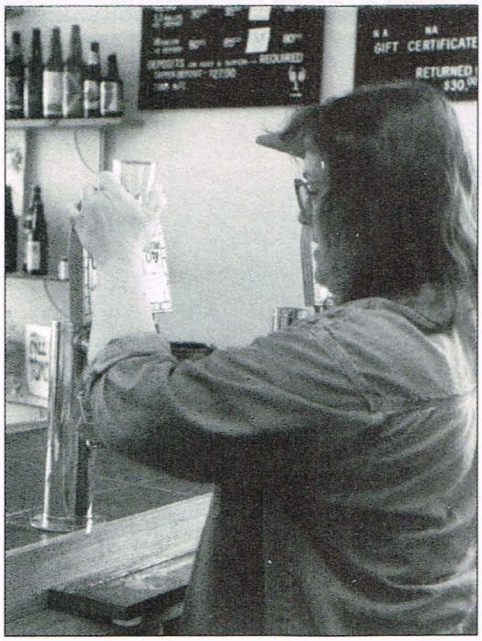
"We knew then we had it beat," he recalls. Now the tasting room stays open until 8 p.m. on Fridays in the summer, and it's regularly packed.

While the beers may be true to classic styles, you wouldn't mistake this for a classic brewery. Brower, Allen, Sally Allen, and Luke Ames spent many months turning a former Chevy and John Deere dealership into a microbrewery. Because they did nearly all the work themselves, it cost them only $500,000 — a fraction of what the brewery is insured for.

Only the tax determination tank, the heat exchanger, and the bottling and kegging apparati are equipment originally meant for a brewery, and they were purchased used. Dairy tanks, bought through a dealer, are at the heart of the 16-barrel system. The tanks became brewing equipment only after Brower and Allen made many



A former Chevrolet and John Deere dealership is home to Stone City Brewing Co.



Partner Sally Allen pours a "real" beer from the brewery tap.

shopping trips to local junk yards in search of parts.

"There are four or five junk yards around here that let you sort through stuff," Brower says. "You can find a lot of perfectly good burners." Often, the owner will let go of the old furnace burners for a dollar or so.

There are three converted tanks in the brewhouse — the mash tun, the hot liquor tank, and the brewing kettle. "You cut the bellies open, rip out the insulation, and put in burners," Brower says, describing in seconds what it took the two of them, working full time, six weeks to accomplish.

"We use direct fire on everything," Allen says. "I want to get a good, rolling boil. That puts flavor in your beer."

Although the equipment isn't traditional, the brewery is set up so Allen can use a traditional gravity-flow process to transfer the beer. The mash tun sits above the hot liquor tank, and the brewing kettle is over to the side. "I feel that if you aerate it, you ruin it," Allen says.

Walls separate the brewhouse from the fermenting and conditioning area. Ales and lagers are fermented at 58° F. "That's at the upper range for the pils, but the yeast works at that (temperature)," Allen says. It doesn't affect the bock, which is brewed in winter.

All of the beer is naturally conditioned, primed in the tax determination tank, then kegged or bottled. The only fining Allen does is adding Irish moss to the brew kettle. After packaging, the beer spends two or more weeks at

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58° F before it is hand delivered to retailers. The six-head Gai bottler, purchased from a defunct Colorado brewery, can do a case a minute, but labeling by hand takes much longer.

Bottling is worth the effort, however: Stone City sold 140 barrels in its first 5.5 months of operation, then added the bottler in early January and sold 560 barrels in six months, all by self-distribution. By early July the brewery was up to 43 accounts, as far away as Keokuk, on the Mississippi River, and including the local Legion hall. "The last three came to us," Allen says. The partners keep busy just satisfying existing accounts, and in mid-summer they considered buying vertical fermenters to supplement the dairy tanks, which are wider than they are tall and take up a lot of floor space.

Stone City's year-round beers are hefeweizen (originally called "Wheat" so as not to confuse the uninitiated), Iowa Pale Ale, and Artist Colony Ale. Seasonals include the hoppy Stone Bluff Pils, a maibock, and a bock.

"The Wheat took off, but what really surprised me is that the dark beer took off, too," Allen says. Jeff and Sally Allen's 14-year-old son, Jason, makes the brewery's root beer.

Hefeweizen is a traditional Bavarian hefe made with more than 60 percent malted wheat and hopped with Saaz. It has pronounced citric, clove, and banana flavors from the German yeast. The high percentage of wheat gives it a hearty body. Iowa Pale Ale is a British-style pale ale made mostly from two-row, some Munich, and "several other malts." It's about 5 percent alcohol by volume, and Allen estimates the IBUs are in the mid-20s. Both the pale ale and Artist Colony Ale are fermented with European ale yeast. Artist Colony is a brown ale made with a variety of malts, including chocolate. It's reminiscent of Newcastle Brown, which it replaced on tap at The Sanctuary in Iowa City, the state's best beer bar.

Artist Colony Ale was named for painter Grant Wood's old art colony in Stone City, the brewery's namesake and the town where the partners originally had planned to open a brewery. As it turned out, Solon offered things Stone City didn't, such as better water, affordable property, a sewer system, and natural gas.

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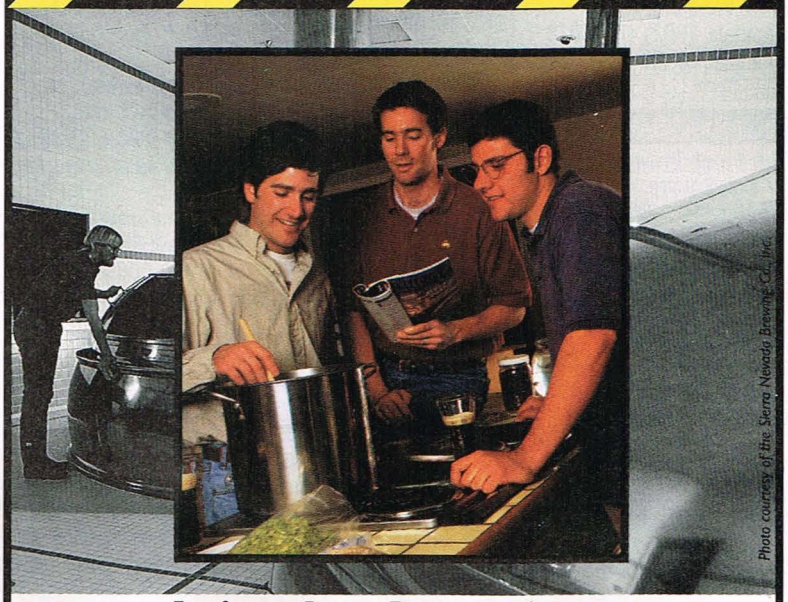


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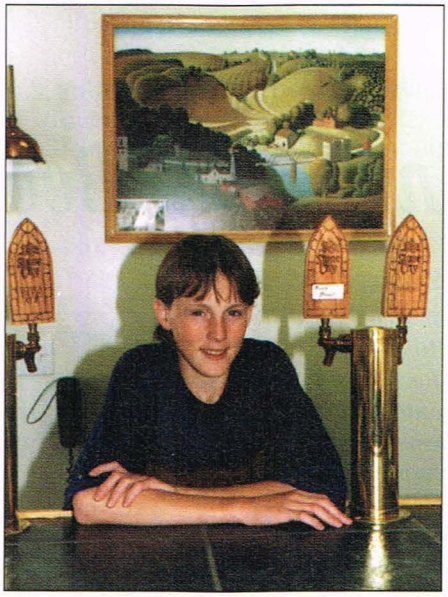
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The partners all grew up in and around Cedar Rapids. Each had useful skills to contribute going into the business. Jeff Allen has a degree in microbiology. Sally Allen, who works full time in a credit union, does all the bookkeeping and financial work. Mark Brower, Sally's brother, was a mechanical engineer, and Luke Ames has experience with plumbing and electrical work.

Until a few years ago Jeff and Sally Allen lived in Colorado, where Jeff was a laboratory manager and homebrewer who became friends with several craft brewers. He decided he wanted to start a microbrewery, but there were already 40-plus operating in Colorado by 1995. So he went back home to Iowa, which had only one distributing microbrewery. "I decided to come out here, where there was nobody," Allen says. "People kept saying 'it'll never work there.'"

The partners have no grand illusions. Growing to 15,000 barrels sounds like plenty to them. "One of the things we worry about is losing that hand-craftedness," Brower says.



Partners Jeff and Sally Allen's 14 year-old son Jason makes the root beer.

By doing so much of the work themselves and avoiding the debt that burdens so many startups, the partners are free to make their own choices. "We don't have to go faster just to stay alive," Jeff Allen says.

Which is fine with the guys down at the Legion hall.

Stone City Brewing Co., 220 S. Dubuque St., Solon, Iowa. Call (319) 644-1360. ■

Stan Hieronymus and Daria Labinsky are authors of the Beer Travelers Guide, *which lists more than 1,700 brewpubs, bars, and restaurants in the United States that serve flavorful beer.*

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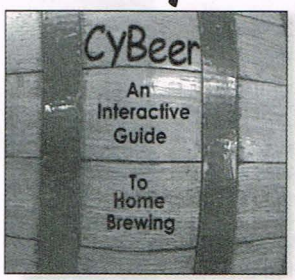
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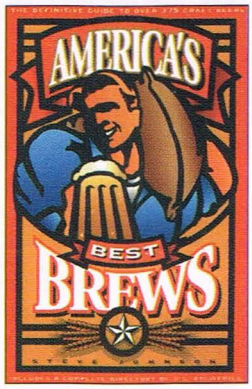
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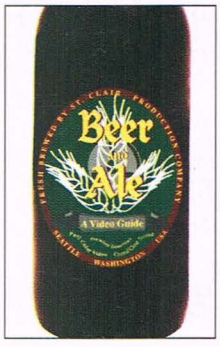
America's Best Brews: The Definitive Guide to More than 375 Craft Beers by Steve Johnson includes information on beers from more than 300 breweries, beer appreciation, and beer history. Included are descriptions and information on availability. The book also includes a list of the top 25 US breweries based on quality, service, atmosphere, and food (where applicable). It has tips on pairing beer and food, a glossary of beer terms, and an index of rated beers by region.



The book is published by Gulf Publishing Company.

Beer Video

Beer & Ale: A Video Guide explores the world of lagers, ales, porters, stouts, bocks, and bitters. The video serves as a guide to appreciating great beer, understanding the wide range of beers, their history, and how they are unique. With an introduction by Michael Jackson, the video features brewers from several microbreweries.



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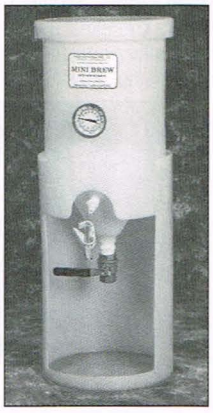
Polar Ware

A manufacturer of food-service products is offering stainless steel stock pots made with the homebrewer in mind. Polar Ware designed a brew pot with two holes, one to house the required ball valve and the other for an optional thermometer. The 10- and 15-gallon pots each come with a cover and brass ball valve. Not included but also available are a perforated false bottom with feet that keeps the grain from settling on the bottom of the pot and a stainless steel ball valve. For information call 1-800-237-3655 or fax (414) 458-2205.



Mini Brew

Hobby Beverage Manufacturing Co. has expanded its product line for the small brewer. It now offers 6.5- and 12-gallon capacity fermenters in addition to the standard 5.5-gallon size.



The polyethylene Mini-Brew System is fully assembled and includes a large stand, which collects overflow, and a carrying handle. The fermenter has a conical bottom and large bottom ball valve for trub removal, yeast collection, and harvest. The top opens fully for easy cleaning, lager yeast removal, or open fermentation. The new systems are available from home-beverage stores. For information call (909) 676-2337.

Muntons Kit

Muntons PLC has added a new line of beer kits, two of which are available now. The Smuggler's Special Premium Ale beer kits are made using a grist formulation to give a true English ale color with a light, malty flavor. The hops are processed to retain all of their essential hop character. The second kit, Old Conkerwood Black Ale, is similarly made to produce a black yet hoppy beer. Both beers are 5 percent alcohol by volume. For more information contact your homebrew shop.



Wine Club

Sommelier du Courrier wine-of-the-month club has ventured into beer. Its Rare Brew beer-of-the-month club offers customers abbey ales, saisons, barleywines, lambics, meads, and ciders to name a few styles. Subscribers are typically sent two different beers a month, usually in 750-ml. bottles. Recent offerings included several gold medal winners, such as La Trappe Dubbel and Liefmans Gluhkriek. Subscribers pay $14.95 plus shipping each month. To join call 1-800-824-5562.



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Why I Don't Share Homebrew

by David Lubar

It's natural to want to share a hobby. Back when I was deeply addicted to fishing, I'd often give trout to a neighbor who loved fresh fish. Then I started brewing. And I thought I could still share. But I learned quickly.

Mistake 1: Taking it out. The first clue that I was up against more than I'd bargained for came when I took my homebrew to a cookout.

I handed the host my best pale ale. I grinned and waited for him to praise my brewing skill. "What's that on the bottom?" he asked. "There's some kind of stuff." He gave it another hard shake, then put the armed grenade close to his face.

Even folks who liked the beer I brought looked at me strangely when I spent all my time following them so I could grab each bottle the moment it was empty. I learned my lesson. I still bring a bottle when I'm invited to a neighbor's house. I just don't share it.

Mistake 2: Giving it away. Once I felt my homebrew tasted better than anything I could buy in a store (roughly a week before I bottled my first batch), I knew I had to spread the message. I gave bottled beer to friends and acquaintances and couldn't wait for their reactions.

I had to wait. Typical example: A week after giving a friend a bottle of beer I'd ask him, "How'd you like that brown ale? I think the quarter cup of molasses really balanced out the darker grains."

"I didn't drink it yet," he said.

"What?" I couldn't imagine letting a bottle of homebrew survive untasted for more than five or six minutes. "You didn't try it?"

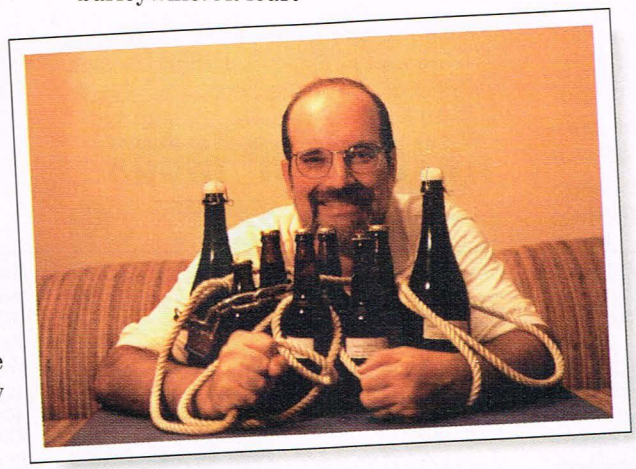
"I was saving it for a special occasion."

One neighbor didn't have a special occasion for six months. I gave him a second bottle so he could drink the first. He ended up saving both of them.

Now when I give beer I say, "Listen, I had a little trouble when I bottled, and the beer got oxygenated. It'll taste fine now, but it will go bad very soon. Make sure you drink it right away."

They say they will but always forget. Then they don't drink it because they're sure it must have gone bad.

Mistake 3: Serving it at home. Given that it's called homebrew, what better place to serve it than in one's own castle? When I host tastings I usually start light, with a wheat beer or some lawnmower brew, and then move up through ambers, browns, tripels, and barleywine. At least that's always the plan when I begin pulling bottles from the cellar. Unfortunately, the tasters seem to prefer that I start with my lightest brews and then move in even lighter directions.



I still bring a bottle when I'm invited to a neighbor's house. I just don't share it.

"Got any lagers?" one guest asked after we'd moved to the ambers.

For an instant I felt encouraged. Here was someone who knew about different yeast strains. We had something to discuss.

"Well, I don't have a dedicated fridge," I say, "so I've been sticking to ales for the moment. I am planning to brew up a California common style next month. It's really interesting. Even though the yeast performs best at a temperature of ..."

"Lagers," he says again. "Bud, Coors, you know."

I got some cans that had been in the basement for a couple of years. "But it's cellar temperature. Is that a problem?"

"Nope. That'll be fine," he says. One sip later I was informed, "Hey, this beer is warm."

I ran it through my wort chiller.

Mistake 4: Letting people know. If I were a baker, would people bring me bread? Probably not. But every dinner guest arrives at my house with a brown bag in hand. "I hear you like exotic beers," the most recent visitor said.

"Well, uh, I like quality beer."

He handed me the bag. "I got you something really special."

"Hey, Guinness. Great," I say.

I take the six pack of stout and put it in the basement with all the other packs of Guinness. Don't get me wrong. I like the stuff. But everyone brings me Guinness. I've got my own private Ireland downstairs.

Maybe I should talk to the guy at the liquor store and ask him to get in some Traquair House or one of my favorites like Celis White or Affligem Tripel. On second thought, not Affligem. It has yeast on the bottom. You know it's going to get shaken the moment they pull it out of the bag. ■

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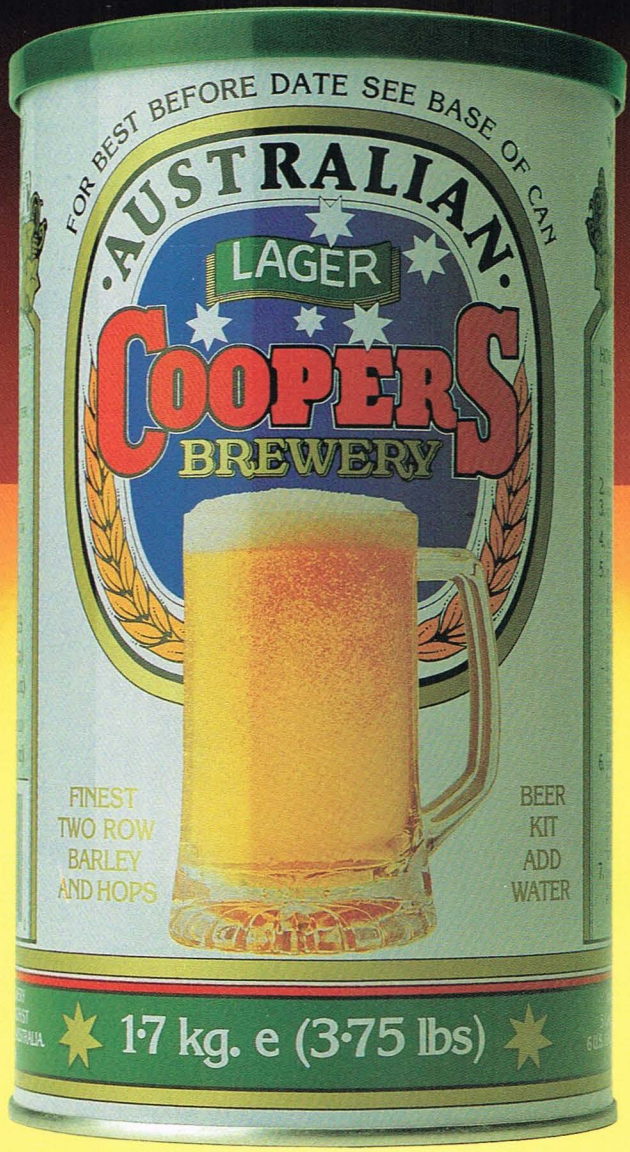


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