

FOR THE HOMEBREWER & BEER LOVER

zymurgy®

■ The Journal of the American Homebrewers Association ■

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YOUR PICK FOR
BEST BEER
IN THE U.S.



In this issue:

12 BEERS YOU CAN BREW

The
Hops
of IPA

HITTING
YOUR
TARGET
GRAVITY

Vinnie's
Double
IPA
Tips

PLUS: LAST DROP: How Pliny Ruined Everything

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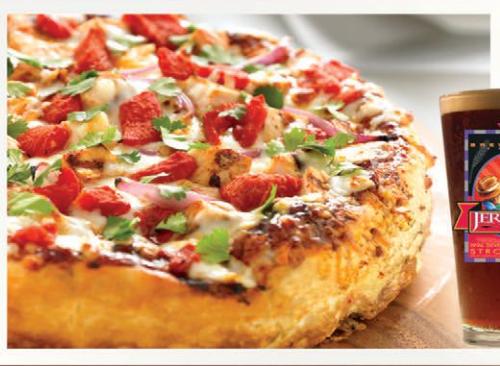
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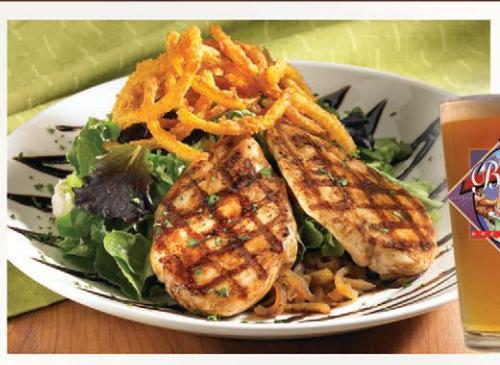
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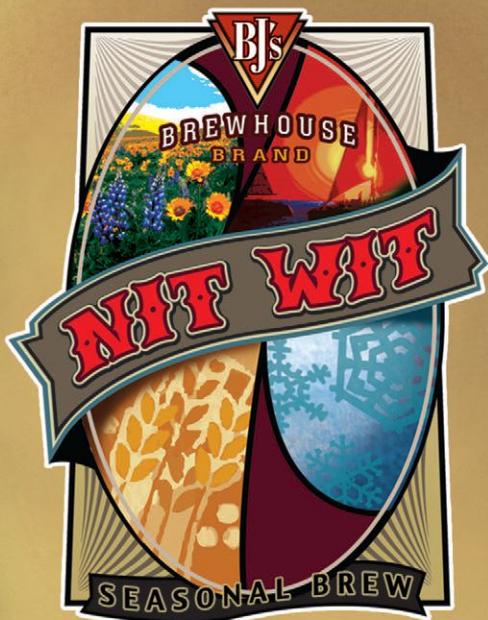
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Taste the Passion

Counting the votes for Zymurgy's Annual Best Beers in America survey is always one of the highlights of my year. It's fun to pore over the votes for craft beer, and I always learn something new along the way.

One thing that hasn't changed since I began working on this project is the craft brewer's passion for brewing fun, amazing beers. As I write this, I have just returned from the annual Craft Brewers Conference in Boston, Mass., where that passion was on display on the big screen. Keynote speaker Greg Koch of Stone Brewing Co. unveiled his inspirational four-minute video called "I am a Craft Brewer" that he spent five months assembling with the help of his craft brewing brethren (if you haven't seen it yet, it's available on several Web sites, including www.beertown.org and www.stonebrew.com.)

If the video doesn't make you even more excited about the craft beers you drink and brew, I don't know what will.

More than 2,000 people in the craft brewing industry—including a growing number of distributors interested in craft beer—attended the conference, which included 45 educational seminars and a trade show. But even with such a large group, the camaraderie and the passion shone through. Koch told the audience, "I love your beers, and I love hanging out with you guys."

Koch also offered up an entertaining power point presentation that included everything from references to Kenny G, a photo of Koch mopping the floor under the stern direction of Brooklyn Brewery's Garrett Oliver, and a hilarious segment featuring Adam Avery and Vinnie Cilurzo that showcased the collaborative beer brewed by Avery Brewing Co. and Russian

River (a blend of their two Salvation ales, called Collaboration Not Litigation).

Cilurzo was genuinely thrilled to learn that his Russian River Pliny the Elder overtook two-time defending champion Dogfish Head 90 Minute IPA as the best beer in America as named by *Zymurgy* readers. Cilurzo couldn't help but take the opportunity to poke fun at his good friend Sam Calagione of Dogfish Head regarding a Q&A in the 2008 Great American Beer Festival program. The question: "Do you still get nervous during the awards ceremony?" Calagione's answer: "Only when Natalie [Cilurzo, Vinnie's wife] 'inadvertently' holds my hand instead of Vinnie's."

"Since Sam inadvertently held Natalie's hand during the awards ceremony at the GABF last year, to celebrate this honor I think I'll fly out to Delaware and take Mariah [Calagione] out dancing for the night," said Cilurzo.

All kidding aside, you won't find a more passionate bunch of people when it comes to craft brewers—and homebrewers.

"We're still homebrewing every day at Dogfish—only in hundred barrel batches instead of in the 15-gallon brewhouse we started with," said Calagione.

Craft brewers posted nearly 6 percent growth in production in 2008 despite the dismal economy, and 2009 is also shaping up to be a solid year as the craft brewing revolution continues to gain momentum. So, cheers to craft brewers, homebrewers, and the *Zymurgy* readers who answered the call to vote for their favorite commercial beers in 2009. It's never too early to start doing your homework for the 2010 Best Beers in America poll!

Jill Redding is editor-in-chief of *Zymurgy*.



zymurgy®

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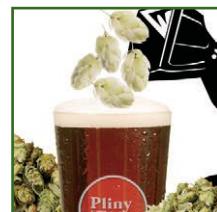
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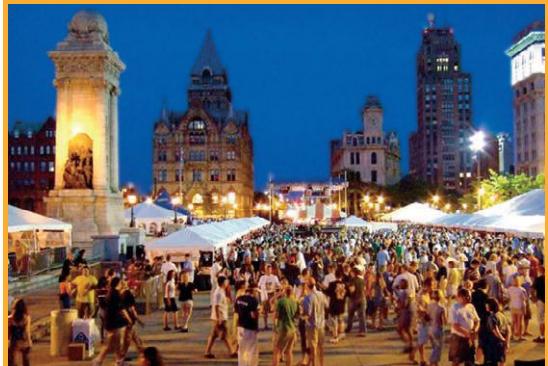
>> GET THERE!

SEATTLE INTERNATIONAL BEERFEST 2009

The Seattle International Beerfest, set for July 3-5, is a summertime specialty beer festival, serving more than 150 hard-to-find, rare and exotic beers from 15 countries.

The SIB takes place at the Seattle Center Mural Amphitheater under the Space Needle. Beer drinkers pay \$20 for 10 beer tickets and an official souvenir glass. Additional tickets are \$1 each. Each 4-ounce serving costs one to four tickets depending on its "swank" factor.

The event includes live entertainment at the amphitheater, a barbecue pit, a gourmet cheese vendor and a cigar bar. Dogs are welcome. For more information, go to www.seattlebeerfest.com.



July 10

Empire State Brewing & Music Festival

Syracuse, NY. nysbrewfest@yahoo.com
www.empirebrewfest.com

July 17-19

Portland International Brewfest

Portland OR.
www.Portland-beerfest.com

July 17-18

Vermont Brewers Festival

Burlington, VT. Phone: 802-885-1262
www.vermontbrewers.com

July 18

Breckenridge Beer Festival

Breckenridge, CO. Phone: 970-453-2234
kbar@nrcbroadcasting.com
www.breckenridgebeerpestival.com

July 19

3rd Annual Stone Sourfest

Escondido, CA. Phone: 760-471-4999
www.stonebrew.com/calendar/

July 23-26

22nd Annual Oregon Brewers Festival

Portland, OR. Phone: 503-778-5917
www.oregonbrewfest.com

July 24-25

Michigan Brewers Guild Summer Beer Festival

Ypsilanti, MI.
www.michiganbrewersguild.org/

July 31-August 1

Belgium Comes to Cooperstown

Cooperstown, NY. Phone: 800-544-1809
info@ommegang.com, www.ommegang.com

August 8

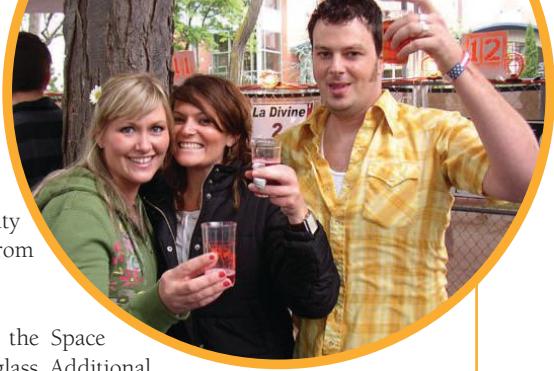
Great Taste of the Midwest

Madison, WI. greattaste@mhtg.org
www.mhtg.org/index.php/great-taste-of-the-midwest

August 22

15th Annual Southern Brewers Festival

Chattanooga, TN. Phone: 423-424-2000
www.southernbrewersfestival.com



BREW NEWS: DAVE'S BREWFARM LAUNCHES WIND-BREWED BEER

Dave's BrewFarm, a sustainably-based craft brewer in Wilson, Wis., began harvesting the wind for its brews in February. It put up a Jacobs 31-20, a 20kW wind generator, on a 120-foot tower to harvest the bountiful winds on the northern ridge of Wilson. The generator is projected to provide up to 50 percent of the needed electricity for the brewery/residence.

The wind generator is but one component of the sustainable aspect of the BrewFarm project, with geothermal heating/cooling and solar thermal rounding out the renewable energy mix. Greywater recycling will handle the brewery's wastewater, which will be used in the hopyard and orchards of Little Wolf Farmstead, the agricultural component of the project.

The BrewFarm is an innovative demonstration project showcasing the latest in renewable and sustainable business practices, and rural development. The hope is that through "leading by example," other businesses will adopt these (and other) sustainable strategies, realizing that every effort helps the planet—and the bottom line.

GREAT GADGET: FROM FLAVOR ACTIV

THE ENTHUSIAST™

The Enthusiast™ by Flavor Activ is a beer-taste troubleshooting kit designed specifically for homebrewers that contains examples of eight different flavor situations commonly encountered in beer brewing. The kit teaches homebrewers how to identify beer characteristics and repair faults in their homebrewed batches through the evaluation of aroma and flavor.

The kit is the result of Flavor Activ's partnership with the U.S. Institute for Brewing Studies and the American Homebrewers Association. Early in 2000, the trio embarked on a project that would result in a training product that would help small-scale brewers, whether brewing commercially or at home, to identify common problem situations through tasting.

The eight most difficult problems to solve in your beer include spoilage by wild yeasts, spoilage by acetic acid bacteria, insufficient wort boiling, the use of old or degraded hops, metal contamination, bacterial growth in the mash, bacterial growth in fermentation, and poor yeast health.

The kit is recommended to be used over three different training sessions. It is available at an introductory rate of \$170 for AHA members (\$199.95 for non-members) at the www.beertown.org Web site.



>> YOU'VE GOTTA DRINK THIS

Troegs Nugget Nectar

This IPA just became available in Massachusetts and it is rushing off the shelves. It pours a hazy golden amber in color and is topped by cirrus clouds of foam. It has a tangy aroma of pungent pine sap and dank high alpha hops. The Nugget, Warrior and Tomahawk hops jump right out and grab you by the nose. Mouth filling flavor of fresh grassy whole leaf hops are cut by the toasty caramel malt backbone. A squeeze of hops in every sip leads to a puckering citrus resin finish. Green is good. Take six and call me in the morning. Troegs has made one brazen hop beauty!

Reviewed by Todd R. Russell, Manchester, N.H.



If you've had a beer you just have to tell the world about, send your description, in 150 words or fewer, to jill@brewersassociation.org.

THE LIST

3 New Summer Seasonals

As craft beer gains favor with the public, seasonal offerings are leading the pack, having recently surpassed the pale ale category in sales volume. In 2008, consumers pushed seasonal beers to new limits with sales up 15.7 percent over 2007 in U.S. supermarkets, according to Information Resources, Inc.

Here are three new summer seasonals being offered by America's craft brewers, who are proving that summer beers don't have to fit any particular mold. For more on seasonal releases available in your state, go to www.seasonalbeerandfood.org.

- SweetWater Road Trip:** The newest edition in the Catch & Release seasonal beer series, Road Trip is a Pilsner brewed with lager yeast but fermented at ale temperatures to make it crisp and hoppy. It is available through the end of July. Info: www.sweetwaterbrew.com
- Grand Teton Lost Continent:** Grand Teton Brewing Co. began shipping Lost Continent Double IPA mid-April as the first of its two seasonal beers. Lost Continent will be available from May through the end of September. It has an astonishing three pounds of hops per barrel in the kettle and another pound per barrel of "dry-hops" added after fermentation, bringing this beer to 90+ IBUs. Info: www.grandtetonbrewing.com
- Deschutes Red Chair IPA:** The newest member of the Deschutes Brewery Bond Street Series debuted in mid-May: Red Chair IPA. Like the other beers in the Bond Street Series, Red Chair IPA began at the community pub on Bond Street in downtown Bend, Ore. These hop-centric ales are available only on tap and in 22-ounce bottles. Brewer John Abraham describes Red Chair as a juicy IPA. "You will find no cloying, mouth-puckering bitterness here. In its place is a straight-up, succulent, citrus punch to the nose. This is due to the experimental nature of some of the hops, as well as how late in the process they were added." Info: www.deschutesbrewery.com

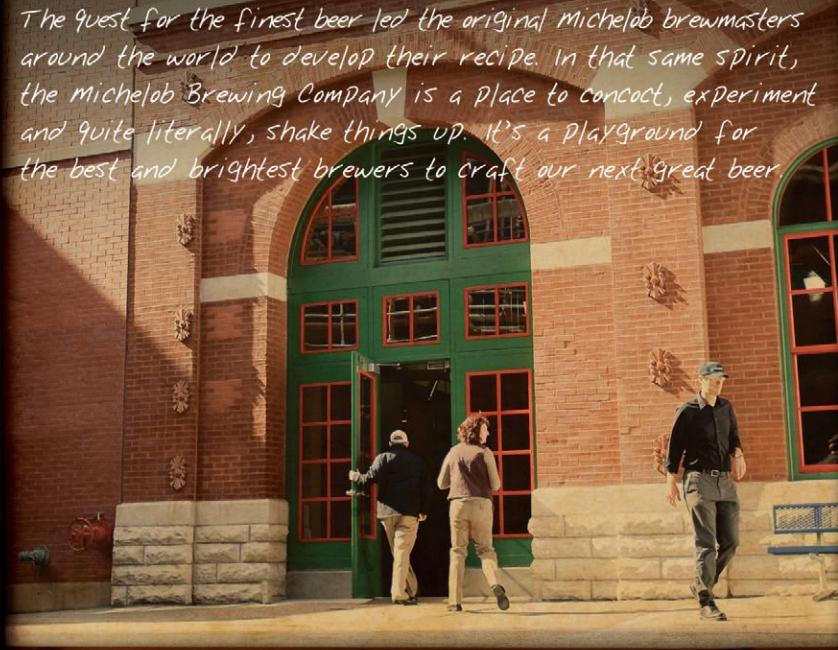


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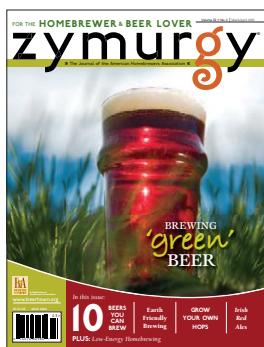
by Our Readers

Low Energy Brewing

Dear *Zymurgy*,

I read Steve Railsback and Charles Chamberlin's "Low-Energy Brewing" in the March/April 2009 issue with interest. The article began with the suggestion that it would tell us how to brew with less overall ecological impact. Unfortunately, the article turned out to only discuss how to lower one's utility bills while homebrewing.

This is significant, because the conclusion was that extract brewing consumes less energy. Unfortunately, the energy needed



to concentrate a mash into extract syrup wasn't mentioned. (Nor was the energy savings from an all-grain brewer bringing the hot extract from their mash to boil mentioned.) Since the extract syrup the article advocates is produced by mashing grains, then reducing them to a syrup (with a cooling step in there as well), it seems like the largest energy load in the production wasn't even counted in the equation.

Or, if the authors did calculate the energy load of producing the syrup, and it supports their contention, it's too bad they left it out of the article. Because its lack transforms the article from its promise into something with far narrower focus.

Fred Geisler
Ann Arbor, Mich.

Dear *Zymurgy*,

This is regarding the "Low Energy Brewing" article in the March/April *Zymurgy*. I

wonder what the comparison would be to all-grain brewing, especially when the energy to create the LME/DME is factored in? Obviously the energy consumed by the brewer is larger with all-grain, but overall? I would tend to believe that overall, all-grain is likely more in line with "low energy brewing" than extract is. Just a question.

Thanks,
Doug Lahde
Anoka, Minn.

Steve Railsback replies: I knew someone would ask this question. We avoided it in our article simply because we did not have the information to answer it with any authority. As you point out, it takes more energy at home to brew all-grain, but it also takes energy to condense malted grain into extract before you buy it.

Extract manufacturers create malt extract by evaporating wort, which requires both heat and vacuum, which are energy intensive. (Muntons has a nice explanation at: www.muntons.com/howmaltismade/malted_ingredients/default_mmi.htm.) I would guess that commercial extract manufacturers have fairly energy-efficient equipment and processes (insulated vessels, reuse of heat, etc.), because energy must be an important cost to them.

Shipping the ingredients to the brewer does not seem like an important consideration. Grain is dry and light, while liquid extract includes water and is heavy. But grain includes a lot of stuff (hulls, proteins, etc.) that does not end up in the beer, so the actual weight shipped does not differ much.

So to really compare the two brewing methods, we would need data on energy use of both all-grain homebrewing and extract manufacturing. Perhaps this information could be obtained, but in the meantime I'm

willing to believe that there is no clear or huge difference.

Organic Brewing

[Editor's Note: This letter was edited for length.]

Dear *Zymurgy*,

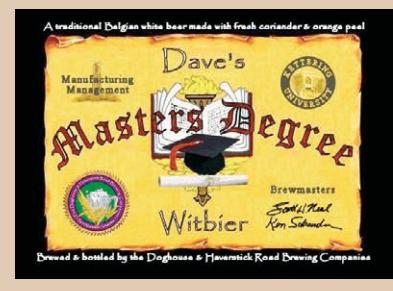
My father and I farm barley and wheat in central Montana. I feel I have some unique insight as I have seen our land farmed many different ways over the years. My grandfather was organic by default (everyone was organic in those days). My father has followed more conventional farming changes.

I do see the benefit of organic when it comes to fruits, vegetables and even hops. These plants often get directly sprayed with pesticides and fungicides. But when it comes to grains, they are typically only sprayed with herbicides (to control weeds) in the plant's infancy long before the seed is formed and not at all if the farmer had good weed control before planting. As for pesticides and fungicides, I can't remember the last time we sprayed them on grain fields. While I don't deny the possible negatives of chemical residues, I feel they are far less than the negatives caused



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by organic weed control practices.

To control weeds, organic grain farmers go back to the old days of plowing a field. While the non-organic, no-till farming method we use requires herbicides, we have far more organic matter in our soil versus organic plowed fields. Continually plowing a field repeatedly exposes the organic matter to the air where it quickly oxidizes into carbon dioxide (which contributes to global warming). Less organic matter in the soil means less water retention (plus erosion), less nutrient release, and more crusting of the soil. Crusted soil (a common problem in organic grain farming) creates a poor seed bed and plant roots get less water and oxygen.

Plowed fields also drastically increase land erosion, often into river and streams. The recent drought was just as bad as the dust bowl of the 1930s. The reason topsoil didn't blow away and the country didn't starve this time was because of newer farming practices that organic farmers can't use. In addition to erosion, plowing a field burns vastly more fossil fuels than the alternative. Since we started using more modern non-organic farming practices, our diesel consumption has dropped by over half.

In your organic article (March/April 2009), Chris O'Brien talked about how non-organic farming is one-dimensional, short-lived, and how we must apply more fertilizer to maintain productivity. I hate to contradict an obviously educated person, but we have only seen productivity increases in the 30 years since our land was last farmed organically without an increase of fertilizer levels.

Ryan Pfeifle
Pfeifle Farms
Power, Mont.

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by Professor Surfeit



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This snake had a starring role in "Night of the Living Gasket"

Dear Professor,

I went down into my basement today to disconnect three kegs from my force-carbonation station so that I could refrigerate them for bottling. I didn't have my glasses on at the time. As I reached for the first keg, I thought I saw a severe problem with the gasket. I peered more intently, and guess what I found? The problem wasn't the gasket at all.

Professor, is this a sign from God? Is it a blessing? A curse? Is it a warning? I call upon the oracles to provide me with the answer.

I propped a mash paddle against the side of the keg and he evidently used it to leave. He had to climb a flight of concrete stairs outside to escape, but he obviously did, stopping long enough to shed his skin on the way!

Cheers,
Graham Cox

Photo courtesy of Graham Cox

Dear Graham,

This is as scary as an old homebrew flick I saw in a dream called "Night of the Living Gasket." It turns out that I actually had a very similar experience, only my snake was a bull snake coiled on a box of empty bottles. Jump back Jack, slip away René. The snake didn't have to slip off his skin because I already jumped out of mine. I think it's a good omen. Friendly snake visits homebrewers to scare away other varmints and those that pilfer homebrew stash. Added security, you might say.

Thanks for the memories,
The Professor, Hb.D.

High Alpha Cinnamon and Stabilizing Hop Aroma

Dear Professor,

I have a few questions about adding cinnamon to the mash. I'm trying for a Dead Guy clone and added a half teaspoon of powdered cinnamon to the mash. I can still get a whiff from the finished wort and can

taste it. Will it go away in the fermenter?

I wonder if it is because I brew using the BIAB method. It could be that some of the cinnamon was still suspended and will settle in the fermenter.

Do you think adding cinnamon helps stabilize the hop flavor and aroma? I have noticed that my homebrew does not hold the hop flavor very long. I have started working with my water as it is very low in all the important brewing salts. I have been reading as much as I can on the Internet but have found very little about stabilizing hops in the finished beer. It seems most homebrewers just think it is normal for all the goodness to go away in a short amount of time. There has to be an easy fix as the micro beer is more consistent on the shelf.

I will know more in a week or two and will report back.

Tom Katzke
Oregon

Dear Sir Katzke,
I put a teaspoon of cinnamon in all my mashes. I've never smelled or tasted a hint of cinnamon in the beer. Did you use some kind of high alpha cinnamon? (Though I don't think there's such a thing). I really think the smell/taste you experience will dissipate through the mashing, boiling and fermentation process.

The interesting thing with cinnamon and other high tannin compounds is that it can combine with precursors of staling compounds in the mashing process and help reduce the oxidizing staling process. That's what I've been told by a Dutch brewing professor who was quite knowledgeable about the use of spices in the brewing process. Coriander also helps,

though the flavor of coriander will carry through to the final beer. Professional brewers also use the bark of certain Chinese trees high in tannins to have a similar effect, but

they add it during post fermentation, whereas the idea of adding it to the mash is ignored by professional brewers. Cinnamon certainly works for me.

I don't know that cinnamon or added complex tannins will help stabilize the hop character. But here's a little gem that a food chemist and hop expert once described to me. The proteolytic enzymes in malt very dramatically stabilize hop aroma compounds when hops are mashed at protein rest temperatures. The giant challenge is that the stabilized aroma compounds are broken down with heat, thus when the wort is boiled you undo what you've done. The first thing I thought of was, well, don't boil this part of the mash. That would make for some very lactic beer. So please someone figure out how to do this and tell the rest of us.



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Dear readers, let me share Tom's reply. "I just thought I would let you know the cinnamon taste went away just like you said it would. Kind of odd—I could taste and smell it when I pitched the yeast but all is well now. Tom."

Stability is a virtue,
The Professor, Hb.D.

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By Amahl Turczyn Scheppach

Amber Hybrid Beers



Amber hybrid beers basically consist of two flavors of Altbier, and California Common. These three styles have a lot in common, so getting the fine details straight can be helpful when faced with entering your beer in the correct subcategory.

The “alt” in Altbier refers to the “old” method of brewing in Germany, namely with the use of ale yeast. Altbier actually comes in four distinct varieties, with Düsseldorf and Northern German examples by far the most available commercially. Sticke and Munster Altbiers are much rarer styles that may be considered variants on Düsseldorf Alt, but they are not considered part of the Amber Hybrid category. Sticke or “special” alt is a smooth, malty brown ale with bock-like strength and a richer, darker flavor than its more common cousins. Munster Alt goes the other direction, with a lighter body and color than Düsseldorf Alt, a drier or even sour palate, and it can be made with wheat malt. Brewed for competition, both Sticke and Munster Altbier should be entered in the Specialty Beer category.

Most Altbier brewed outside of Düsseldorf can be considered a Northern German Altbier. These share the cold conditioning methods of other Altbier styles, resulting in clean, malty flavors and lager-like smoothness, but more emphasis is put on hop bitterness. In fact, many are really brewed with lager yeast, which makes the “Alt” reference somewhat misleading.

They are fairly restrained, balanced beers, with an original gravity in the 1.046 to 1.054 range, and a moderately dry finish of 1.010 to 1.015, with apparent dryness helped by the 25 to 45 IBUs of noble German hops added. Hop aroma and flavor should be kept low, however, so most of the hop addition will be applied in the kettle. Pils malt should make up the base

Düsseldorf Altbier

Ingredients

for 5.5 U.S. gallons (21 liters) using a pre-boil volume of 3 gallons (11.4 liters)

2 cans	(6.6 lb, or 3.0 kg) Coopers Light Malt Extract
1.25 lb	(0.57 kg) Light Liquid Munich Malt Extract or 1.0 lb (0.46 kg) Dry Light Munich Extract
0.5 lb	(0.23 kg) Special B Malt (120° L)
0.5 lb	(0.23 kg) CaraMunich Malt (60° L)
0.25 lb	(0.11 kg) Carafa Malt (400° L)
1.5 oz	(43 g) *Perle hops, 8.75% alpha acid (60 min)
1.0 oz	(28 g) *Tettnang hops, 4.5% alpha acid (15 min)
0.75 tsp	(3 g) Irish moss (15 min)
2 packages	Wyeast 1007 German Ale Yeast, or White Labs WLP036 Düsseldorf Alt Yeast, or White Labs WLP029 German Ale/Kölsch yeast, or a sufficient yeast starter
	Coopers Brewery Carbonation Drops for bottling to attain 1.5 to 2.5 volumes of CO ₂

Directions

Steep the grains in 2 gallons (7.6 L) of cool water. Heat the water to 170° F (77° C), then strain the grains. Stir in malt extract and add enough water to bring the volume up to 3 gallons (11.4 L), and bring to a boil. Add bittering hops and boil for 45 minutes, then add aroma hops and rehydrated Irish moss and continue boiling for 15 minutes. Cool the wort, and then pour into fermenter with enough cold water to make 5.5 gallons (21 L). Aerate and pitch yeast when temperature drops to 65° F (18° C). Ferment at 65° to 68° F (18° to 20° C) for one week or until fermentation is complete. Age the beer in a secondary fermenter for one week at 65° F (18° C). Prime with Coopers Brewery carbonation drops at bottling for a carbonation of 1.5 to 2.5 volumes of CO₂.

*Use similar hops, if Perle or Tettnang hops are unavailable.

Original Specific Gravity: 1.053

Final Specific Gravity: 1.012

IBU: 42

ABV: 5.4%



grain bill, with Vienna or Munich malts adding depth. Color and flavor may come from dark crystal and/or lightly applied roast malts, resulting in a light brown to copper color of 13 to 19 SRM. Rich, caramel-like, even biscuity malt flavors should dominate, though a dry finish is desirable.

Düsseldorf Altbier can be a shade lighter (11 to 17 SRM), but is generally differentiated from Northern German Altbier by its higher bitterness and fuller malt. Original and final gravity is the same at 1.046 to

1.054 and 1.010 to 1.015 respectively, but IBUs rise to the 35 to 50 range. Pils or Munich should be used as base malts in Düsseldorf Ale, with moderate amounts of crystal, chocolate or black malts to adjust color. The use of debittered chocolate malt, debittered black malt or Carafa malt is preferable. Roast malt harshness or bitterness should not be present in the finished beer. A decoction mash can also be used to accentuate malt richness while keeping the wort highly fermentable, and thus finishing gravities low. Spalt hops are traditional for bittering,

and while Northern German Alt should have very restrained hop aroma and flavor, Düsseldorf Alt can express more hop character in both areas, to moderate levels. Fruity esters are also allowable from ale yeasts, in low amounts, though diacetyl should not be present.

California Common beer is a hybrid in the opposite sense from Altbier, in that lager yeast is used at ale yeast temperatures. Based on the original Anchor Steam beer, any California Common beer entered for competition should probably strive to mimic that beer as closely as possible, since judges often calibrate with it. Northern Brewer hops are typically used, with lots of aroma and flavor, and bitterness ranging from 30 to 45 IBUs. Deviating to a more citrusy or catty hop should be avoided. Pale malt with crystal and perhaps toasted malt should make up the grain bill, and a light amber to copper color of 10 to 14 SRM is the target. Look for "California" lager yeast strains that are tolerant of higher temperatures (in the 55 to 60° F range) and won't produce too much sulfur. Original gravity should be in the 1.048 to 1.054 range, finishing around 1.011 to 1.014.

Amahl Turczyn Scheppach is a former craft brewer and associate editor for Zymurgy, and now brews at home in Lafayette, Colo.

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The Results Are In!

7th Annual Survey
Zymurgy's Best Beers In America



The results are in! Each of the past seven years, we've asked Zymurgy readers to send us a list of their 20 favorite beers. The only rule is that the beer has to be commercially available somewhere in the United States.

By Jill Redding



Top Ranked Beers

(T indicates tie)

1. Russian River Pliny the Elder
2. Dogfish Head 90 Minute IPA
3. Stone Arrogant Bastard
4. Bell's Two Hearted Ale
5. Sierra Nevada Pale Ale
6. Stone IPA
7. Stone Ruination
- T8. Anchor Steam
- T8. North Coast Old Rasputin
- T10. Sierra Nevada Celebration
- T10. Dogfish Head 60 Minute IPA
- T10. Guinness
- T13. Unibroue La Fin du Monde
- T13. Sierra Nevada Bigfoot Barleywine
- T15. New Glarus Belgian Red
- T15. Samuel Adams Boston Lager
- T15. Victory Prima Pils
- T15. New Belgium Fat Tire
- T19. Deschutes Black Butte Porter
- T19. Founders Breakfast Stout
- T19. Oskar Blues Dale's Pale Ale
- T19. Russian River Blind Pig
- T19. Saison Dupont
- T19. Victory Hop Devil
- T25. Alaskan Smoked Porter
- T25. Duvel
- T25. Left Hand Milk Stout
- T28. Deschutes The Abyss
- T28. Dogfish Head Palo Santo Marron
- T28. New Belgium La Folie
- T28. Odell IPA
- T32. Avery Maharaja
- T32. Bell's Expedition Stout
- T32. Chimay Grande Reserve
- T32. Dogfish Head Indian Brown
- T32. Great Lakes Edmund Fitzgerald Porter
- T32. Rogue Chocolate Stout
- T32. Russian River Pliny the Younger
- T32. Spaten Optimator
- T32. Three Floyds Alpha King
- T41. Delirium Tremens
- T41. Green Flash IPA
- T41. Great Divide Oak Aged Yeti
- T41. Hoegaarden Wit
- T41. New Glarus Raspberry Tart
- T41. Pilsner Urquell
- T41. Sierra Nevada Harvest Ale
- T41. Three Floyds Dark Lord
- T41. Troegs Nugget Nectar
- T41. Young's Double Chocolate Stout

We received a record 2,612 votes for 1,034 different beers from 419 breweries across the United States and beyond.

And for the first time in three years, we have a new number one beer. Russian River's Pliny the Elder bested two-time defending champion Dogfish Head 90-Minute IPA by just two votes.

"So the West Coast Italian brewer outdoes the East Coast Italian brewer, and we did it on Sam's old equipment, and we did it without a Randall. How about that?" teased Russian River owner Vinnie Cilurzo, who couldn't resist poking fun at his good friend Sam Calagione of Dogfish Head.

"In all seriousness, this is a real honor," said Cilurzo. "We've always been very connected with the homebrew community, and we are very appreciative of the support we have received from all the homebrewers who drink our beer."

"I'm proud of Vinnie, as Russian River makes great beer, and the brew system Vinnie makes it on used to make 90 Minute, so it keeps it in the family," said Calagione.

Pliny the Elder (named after the Roman naturalist who created the botanical name for hops) is an award-winning double IPA that checks in at 8-percent alcohol by volume. (For more on double IPAs and Pliny the Elder, check out Cilurzo's article on page 22, and the Last Drop on page 64).

"Pliny the Elder is probably my favorite beer right now," said *Zymurgy* reader Derek McClintick of Napa, Calif. "It has such huge hop aroma and flavor yet it has such balance. Some IPAs have such a harsh bitterness to them, which I enjoy at times, but this beer gives you great hoppiness up front and finishes smooth."

"I tear up even thinking about this beer," said *Zymurgy* reader Matt Hayes.

Once again, IPAs stole the spotlight in our annual survey, taking six of the top 10 spots. Dogfish Head 90 Minute IPA is a 9-percent abv, 90 IBU beer brewed with 94 pounds of barley and 2.25 pounds of hops per barrel.

"I will have to say that my favorite is Dogfish Head's 90 Minute IPA," said *Zymurgy* reader Ron Harper of Highlands

Rogue Chocolate Stout Clone

(Reprinted from September/October 2003 *Zymurgy*)

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

11.0 lb	(5 kg) Great Western two-row pale malt
0.5 lb	(227 g) 120 L crystal malt
0.5 lb	227 g) chocolate malt
0.5 lb	(227 g) rolled oats
3.0 oz	(85 g) roast barley
1.5 oz	(35 g) chocolate extract (in secondary)
1.0 oz	(28 g) Cascade pellet hops, 5% a.a. (90 min)
1.0 oz	(28 g) Cascade pellet hops, 5% a.a. (30 min)
1.0 oz	(28 g) Cascade pellet hops, 5% a.a. (knockout)
1.0 tsp	(5 mL) Irish moss (20 min) Wyeast 1764 Pacman Ale Yeast (if available), or White Labs WLP001 California Ale Yeast or Wyeast 1056 American Ale Yeast

Original Gravity: 1.060 (15 P)

IBU: 69

Directions

Mash at 150° F (65° C) for 60 minutes. Sparge at 175° (79° C) to collect 6.5 gallons (24.6 L) of pre-boiled wort. Boil 90 minutes. Cool to 60° F (16° C) and pitch yeast. Ferment at 60° F (16° C) for one week. Siphon into secondary at 50-55° F (10-13° C) onto chocolate extract and hold until fermentation is complete, then package and condition.

Extract plus Specialty Grains:

Steep specialty malts in 150° F (65° C) water for 20 minutes. Strain, add 7.5 lb (3.4 kg) light malt extract syrup and proceed with one-hour boil, adding hops at specified intervals.

Ranch, Colo. "I've never had an IPA with such an explosion of flavor."

Checking in third was Stone Arrogant Bastard, an American strong ale, followed by Bell's Two Hearted Ale, an IPA. Sierra Nevada Pale Ale rounded out the top five.

While many perennial favorites made the top 50 list this year, *Zymurgy* readers also had a great time exploring beers they'd never tried before.

"Ommegeddon (by Brewery Ommegang) was the most interesting beer I had this year," said reader Edward Mathis. "I got to try it at the GABF and I was totally blown away. I really wish I could find it in Wisconsin—I'd buy them all!"

Reader Patrick Boegel also discovered a new favorite. "Brooklyn Local 1 is one of the finest achievements in the craft brewing world in the past few years, an absolutely fantastic and complex Belgian strong ale straddling the line between strong golden and tripel," he said.

Foreign Affairs

Responses again this year showed that *Zymurgy* readers love the beers brewed by their local brewpubs and microbrew-

eries—but also those from overseas. Of the top 50 beers in the poll, 10 are imports, led by Guinness stout, the top-ranked import three of the past four years. Guinness tied for 10th overall.

"I'm not so good at the reviews, so I'll go short and sweet with Guinness and say 'Brilliant!'" said Rick Suk of Newark, Calif.

Unibroue's La Fin du Monde, a Belgian-style golden ale, finished a close second among imports (tied for 13th overall). Saison Dupont was third, followed by Duvel.

While many of the best beers are brewed by our local breweries in our own hometowns, imports can provide a glimpse into another world, whether experienced here or overseas.

Jeff Prescott of Charlotte, N.C. said his first taste of Liefman's Kriek was an eye-opening experience.

"I don't particularly care for cherries and don't generally see any reason to add fruit to beer," said Prescott. "But drinking this beer was like falling in love."

"My greatest find this year was the Cantillon Rose de Gambrinus," said Bill Lammers of



Best Portfolio

(T indicates tie)

Ranked by number of beer brands named in the poll.

1. Dogfish Head Craft Brewery (19 beers)
- T2. Boston Beer Co. (18 beers)
- T2. Rogue Ales (18 beers)
- T4. Avery Brewing Co. (16 beers)
- T4. Bell's Brewery (16 beers)
- T4. New Belgium Brewing Co. (16 beers)
7. Sierra Nevada Brewing Co. (14 beers)
- T8. Flying Dog Brewery (13 beers)
- T8. Victory Brewing Co. (13 beers)
- T10. Deschutes Brewery (12 beers)
- T10. Rahr & Sons Brewing Co. (12 beers)
- T10. Stone Brewing Co. (12 beers)
- T13. Russian River Brewing Co. (11 beers)
- T13. Three Floyds Brewing Co. (11 beers)
15. Brooklyn Brewery (10 beers)
- T16. Brewery Ommegang (9 beers)
- T16. Great Lakes Brewing Co. (9 beers)
- T16. Goose Island Beer Co. (9 beers)
- T16. New Glarus Brewing Co. (9 beers)
- T16. Odell Brewing Co. (9 beers)

Avery Maharaja Imperial IPA Clone

Recipe by Amahl Turczyn Scheppach (thanks to Avery's Matt Thrall for providing guidance)

Ingredients

for 5 U.S. gallons (19 L)

15.5 lb	(7.03 kg) pale malt
0.5 lb	(227 g) 120L crystal malt
0.5 lb	(227 g) Victory malt
1.25 oz	(35 g) Columbus pellet hops, 13.9% a.a. (60 min)
1.0 oz	(28 g) Columbus pellet hops, 13.9% a.a. (30 min)
2.0 oz	(57 g) Centennial pellet hops, 13.9% a.a. (0 min)
2.0 oz	(57 g) Simcoe pellet hops, 11.4% a.a. (0 min)
4.5 oz	(127 g) Simcoe pellet hops (dry)
2.25 oz	(64 g) Centennial pellet hops (dry)
2.25 oz	(64 g) Chinook hops (dry)
	California Ale Yeast

Boil time: 90 min

IBUs: 103

Specific Gravity: 1.089

Assumed Efficiency: 75%

Directions

Infusion mash at 147° F (64° C) for 90 minutes. Ferment at 74° F (23° C), then condition in secondary on dry hops at 60° F (16° C) for at least one week.

Extract Recipe:

Substitute pale malt for 12 lb (5.44 kg) light malt extract syrup. Crush and steep specialty grains in 160° F (71° C) brewing water, dissolve extract, and proceed with boil.

Top Imports

(T indicates tie)

1. Guinness (Ireland)
2. Unibroue La Fin du Monde (Canada)
3. Saison Dupont (Belgium)
4. Duvel (Belgium)
- T5. Chimay Grande Reserve (Belgium)
- T5. Spaten Optimator (Germany)
- T7. Delirium Tremens (Belgium)
- T7. Hoegaarden Wit (Belgium)
- T7. Pilsner Urquell (Czech Republic)
- T7. Young's Double Chocolate Stout (England)



Brewery Rankings

These rankings are based on total votes received by each brewery's beers.

1. Dogfish Head Craft Brewery, Milton, Del.
2. Stone Brewing Co., Escondido, Calif.
3. Sierra Nevada Brewing Co., Chico, Calif.
4. Russian River Brewing Co., Santa Rosa, Calif.
5. Bell's Brewery, Kalamazoo, Mich.
6. Boston Beer (Samuel Adams), Boston, Mass.
- T7. New Belgium Brewing Co., Fort Collins, Colo.
- T7. Rogue Ales, Newport, Ore.
- T7. Victory Brewing Co., Downingtown, Pa.
10. Deschutes Brewery, Bend, Ore.
11. Avery Brewing Co., Boulder, Colo.
12. Alaskan Brewing Co., Juneau, Alaska
13. Anchor Brewing Co., San Francisco, Calif.
14. New Glarus Brewing Co., New Glarus, Wis.
15. Three Floyds Brewing Co., Munster, Ind.
- T16. Brewery Ommegang, Cooperstown, N.Y.
- T16. Goose Island Beer Co., Chicago, Ill.
- T18. North Coast Brewing Co., Fort Bragg, Calif.
- T18. Odell Brewing Co., Fort Collins, Colo.
- T20. Great Lakes Brewing Co., Cleveland, Ohio
- T20. Oskar Blues Brewing Co., Lyons, Colo.
- T20. Rahr & Sons Brewing Co., Fort Worth, Texas
23. Unibroue, Chamby, Quebec
24. Great Divide Brewing Co., Denver, Colo.
25. Founders Brewing Co., Grand Rapids, Mich.

Spirit of Homebrew

This ranking is based on total number of votes received divided by annual production in barrels.

1. Jolly Pumpkin Artisan Ales, Dexter, Mich.
2. Hair of the Dog Brewing Co., Portland, Ore.
3. AleSmith Brewing Co., San Diego
4. Rahr & Sons Brewing Co., Fort Worth, Texas
5. Port Brewing/The Lost Abbey, San Marcos, Calif.

Oskar Blues Dale's Pale Ale Clone

Recipe by Amahl Turczyn Scheppach

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

10.5 lb	(4.76 kg) Maris Otter pale malt
0.5 lb	(227 g) CaraHell malt (Weyermann)
1.25 oz	(35 g) Northern Brewer pellet hops, 9% a.a. (60 minutes)
0.75 oz	(21 g) Columbus pellet hops, 13.9% a.a. (15 minutes)
1.5 oz	(42 g) Centennial pellet hops, 10.5% a.a. (0 minutes)
1.0 oz	(28 g) Cascade pellet hops, (dry)
	California Ale Yeast

Boil Time: 90 minutes

IBUs: 66

Original Gravity: 1.062

Assumed Efficiency: 75%

Directions

Infusion mash at 151° F (66° C) for 90 minutes. Ferment at 70° F (21° C), then condition in secondary on dry hops at 60° F (16° C) for at least one week.

Extract Recipe:

Substitute pale malt for 8.5 lb (3.86 kg) light malt extract syrup. Crush and steep specialty grains in 160° F (71° C) brewing water, dissolve extract, and proceed with boil.

Cedar Rapids, Iowa. "Served on tap at the Hopleaf in Chicago, this was the most amazing thing I've tasted as of late."

Ahead of the Pack

As in years past, we also kept track of which breweries received the most votes. This year's top brewery, by a landslide, is Dogfish Head Craft Brewery of Milton, Del.

Dogfish Head placed four beers in the top 50, including its 90 Minute and 60 Minute IPAs, Indian Brown, and the relatively new Palo Santo Marron, a brown ale brewed in 10,000-gallon tanks handcrafted from exotic Paraguayan Palo Santo wood.

Victory Prima Pils Clone

Recipe by Amahl Turczyn Scheppach

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

9.25 lb	(4.2 kg) German pilsner malt
1.0 oz	(28g) Hallertau Tradition whole hops, 6% a.a. (60 min)
1.0 oz	(28g) Tettnanger whole hops, 4.5% a.a. (30 min)
1.0 oz	(28g) Hallertau Mittelfruh whole hops, 4.5% a.a. (20 min)
2.0 oz	(57g) Saaz whole hops, 4.3% a.a. (10 min)
	German lager yeast

Boil Time: 90 minutes

IBUs: 51

Original Gravity: 1.053

Assumed Efficiency: 75%

Directions

Use a double decoction mash schedule with a protein rest at 122° F (50° C) for 20 minutes, main mash rests at 145° F (63° C) for 40 minutes and 155° F (68° C) for 20 minutes, and a mash-out at 165° F (74° C) for 10 minutes. Ferment at 50° F (10° C) for two weeks or until finished. Unless you pitch a large, fresh starter, consider doing a diacetyl rest at 60-65° F (16-18° C) for two days. Crash to 35° F (2° C) and lager for 10 to 13 weeks.

Extract Recipe:

Substitute 7.5 lb pale malt extract syrup for the pilsner malt. Please note that the extract version of this beer will be appreciably darker (7 SRM as opposed to 3 for the all-grain full wort boil version).

"If Dogfish was a public company, I would have been fired for building these tanks," joked Calagione.

Palo Santo Marron struck a chord with *Zymurgy* readers.

"It is called an American brown ale because they needed to call it something," mused *Zymurgy* reader Jeff Long. "It is on the dark side of dark brown, and hardly like any brown ale that you have ever had. It is

Left Hand Milk Stout Clone

Recipe by Amahl Turczyn Scheppach

Ingredients

for 5 U.S. gallons (19 liters)

7.0 lb	(3.18 kg) pale malt
1.0 lb	(0.45 kg) roasted barley
1.0 lb	(0.45 lb) lactose (15 minutes before end of boil)
0.75 lb	(21 g) 60°L crystal malt
0.75 lb	(21 g) Munich malt
12.0 oz	(340 g) chocolate malt
0.5 lb	(227 g) flaked barley
0.5 lb	(227 g) flaked oats
0.3 oz	(8.5 g) Magnum pellet hops, 4% a.a. (60 min)
1.0 oz	(28 g) E.K. Goldings pellet hops, 4% a.a. (10 min)
	California ale yeast

Boil Time: 90 minutes

IBUs: 22

Original Gravity: 1.064

Assumed Efficiency: 75%

sticky, alcohol warm, and complex, which is a nod to the wood that throws all kinds of interesting flavors."

Finishing second was Stone Brewing Co. of Escondido, Calif., which placed three beers in the top 10, including Arrogant Bastard, Stone IPA and Ruination IPA.

We also tabulated which breweries had the most brands in the voting. That honor also goes to Dogfish Head, which had 19 brands receiving votes in the poll.

Dogfish Head will have two new offerings rolling out soon, including firkins of cask-conditioned 75 Minute IPA in four markets (Boston, New York City, Philadelphia and Rehoboth Beach, Del.) "We blend 60 and 90 Minute, let it sit on a bed of whole leaf hops for two weeks, then dose each firkin with maple syrup from my family farm in western Massachusetts for natural carbonation," said Calagione.

Dogfish Head Sahtea will be hitting the market this summer. "It is sort of a Finnish sahti, brewed with rye and juniper and the wort is boiled with white-hot wood-fired rocks," explained Calagione.

Directions

Mash at 151° F (66° C) for 90 minutes. Add lactose 15 minutes before end of boil. Ferment at 70° F (21° C), then condition in secondary at 60° F (16° C) for at least one week.

Mini-Mash Recipe:

Substitute pale malt for 3.85 lb (1.74 kg) light malt extract syrup plus 2 lb (0.9 kg) pale two-row malt for the mash. Crush specialty grains and pale malt, and mash with flaked barley, oats and 2 gallons brewing water (7.57 L). Hold mash at 151° F (66° C) for 90 minutes or until conversion is complete. Sparge, run clear wort into kettle, dissolve extract, top up kettle to 5.5 gallons, then proceed with boil.

"We also add an Indian black tea with rampe leaves and cardamom."

Great Beers, Small Breweries

Once again, we raise a glass to those breweries that, though small in production, score high with beer lovers. We determine the Spirit of Homebrew Award by taking

a brewery's total number of votes and dividing it by the brewery's production in number of barrels.

Jolly Pumpkin Artisan Ales in Dexter, Mich. is the Spirit of Homebrew winner for the second straight year.

The brewery, which produced just 667 barrels of beer in 2008, is known for its innovative open fermentation, oak aging and bottle conditioning.

Second place went to Hair of the Dog Brewing Co. in Portland, Ore. (422 barrels), followed by AleSmith Brewing Co. in San Diego (1,537 barrels).

Recipes

As usual, we're including clone recipes for some of the top vote-getters. Cilurzo provides his Pliny the Elder recipe on page 25, and the recipe for 90 Minute IPA can be found in the July/August 2005 *Zymurgy*. We've also run clone recipes in the past for many of the other top 10 beers. However, *Zymurgy* contributor Amahl Turczyn Scheppach still had plenty of great beers to choose from, so we've provided clone recipes for five more favorites. Give them a try and let us know what you think.

Jill Redding is editor-in-chief of *Zymurgy*.

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Are You Having a
Lupulin Threshold Shift?

Brew a
Double
IPA!



My first Double IPA was called Inaugural Ale; it was the first beer I ever brewed at Blind Pig Brewery in Temecula, Calif. on June 23, 1994. We purchased some used equipment from the Electric Dave Brewery in Bisbee, Ariz. The 7-barrel brewhouse was sound, but what was unique was the fact that the fermenters were plastic. This didn't bother me much as I came into brewing professionally via homebrewing, where fermenting in plastic was fairly common. What made me more nervous was the fact that I had never brewed a batch of beer commercially on my own, and, more importantly, I had never brewed a batch of beer this large.

With all this in mind, I took the recipe for what was to be our Blind Pig IPA, doubled the hops (literally) and raised the malt bill by 30 percent or so. I figured that if there were any off flavors in the Inaugural Ale, at least there would be enough hops to help mask them. Thankfully, Inaugural Ale turned out great and we made it a tradition on our anniversary to brew a Double IPA.

Eventually both Rogue Ales and Stone Brewing brewed a Double IPA in the '90s, but it wasn't until 2001 when Vic and Cynthia Kralj from The Bistro in beautiful downtown Hayward, Calif. started one of the hoppiest beer festivals around, The Bistro Double IPA Festival. That first fest had only 12 entries, including my first batch of Pliny the Elder.

Building a Double IPA

To me, this is pretty simple: a Double IPA should not have a large amount of crystal malt. After all, you are brewing a Double IPA, not a barleywine. In my opinion, too much crystal malt mixed with American hops is a train wreck of hop aroma and flavor. Now I'm not saying that you shouldn't use some crystal malt; a little bit will give you some color and body. A Double IPA needs to sit on a good malt foundation, but it doesn't need to be hampered with too much crystal malt that will get in the way of a good, clean hop character.

Obviously hops will be your primary concern when building a Double IPA recipe. But before we talk hops, let's talk malt and yeast. In my opinion, the malt bill for a Double IPA should be simple. It doesn't need to be anything more than two-row malt, Carapils (dextrin) malt, crystal malt, and possibly some acidulated malt. Beyond that, I highly suggest you use some dextrose (corn sugar) in the boil to help bump up the gravity. Not only will the use of sugar help bring up the gravity of the wort, but because there are simple sugars that the yeast can ferment straight through, you will end up with a lighter bodied beer. This is of course purely up to you; I personally like to drink a Double IPA that is light in body thus allowing the hops to plow through the overall flavor profile of the beer. If you like more body in your Double IPA, I would suggest you replace all or some of the sugar with more two-row malt to achieve an abv around 8 to 9 percent.

By Vinnie Cilurzo





Yeast may not be the first thing you think about when crafting a Double IPA, but don't let this decision fall by the wayside. After all, the yeast is what brings together all the flavors from all the ingredients (including the yeast) in your beer. I personally like California Ale Yeast/Chico Ale Yeast to brew any and all IPAs. Stay away from any yeast that will leave any diacetyl in the final beer.

For hops, I like what would be considered traditional hops in American style IPAs and Double IPAs. Hops such as Amarillo (apricots and peaches), Cascade (floral and citrus), Centennial (fruity), Chinook (peppery), CTZ (Columbus, Tomahawk, Zeus—dank, onion, garlic, spice) and Simcoe (pine) all make a beautiful Double IPA. There is nothing like the aroma of a beer using these hops. But these hop aromas are fairly volatile, so don't age your Double IPA (or regular IPA). Drink it fresh to realize the explosive hop aroma and flavor.

Techniques for Brewing a Double IPA

Now that you've built your recipe, let's talk about a few techniques that I employ in making Pliny the Elder that I think will help you make a better Double IPA. I prefer to mash at 151° F (152° F tops). Keeping the mash temperature low will not only yield more fermentables, but you'll get a lighter bodied beer that will let the hops push through more. This is of course also a personal preference; if you want more body, raise your mash temperature.

We ferment Pliny the Elder between 66 to 68° F; anything above this range might yield diacetyl. The only thing worse than a Double IPA with too much crystal malt is one with diacetyl.

Dry hopping is obviously a must; consider not only a single dry hop addition, but a second dry hop addition. For Pliny the Elder, we dry hop for 12 to 14 days. Furthermore, we dry hop at somewhat of a warmish temperature that starts at 60° F. At the end of fermentation we drop the temperature of the fermenter to 60° F for two days. We remove as much yeast as possible and add the hops through the

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LUPULIN THRESHOLD SHIFT

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shift\ n

1. When a once extraordi-narily hoppy beer now seems pedestrian. 2. The phenomenon a person has when craving more bitterness in beer. 3. The long-term exposure to extremely hoppy beers; if excessive or prolonged, a habitual dependence on hops will occur. 4. When a "Double IPA" just is not enough.

top of the tank. If you are transferring your homebrew from a primary fermenter to a secondary fermenter, be sure to add your dry hops after the beer has been transferred so the hops can settle out through the beer.

We also turn off the glycol so the beer won't get any colder; in fact, the beer will free rise in temperature several degrees during the dry hopping. On a large scale we need to be able to remove yeast for future fermentations, this is why we drop the temperature to 60° F. Previously we would go down to 52° F, but we found that we could get just as much yeast out at 60° F and we gained 8 degrees, which left us with even more aroma. As a homebrewer, you can dry hop at your fermentation temperature of 68° F and get even more hop aroma.

With five to six days to go in the total number of days of dry hopping, we add a second dry hop addition through the top of the fermenter. Once the second dry hops are added we push the initial dry hops (which are now in the cone of the tank) back into suspension in the fermenter. We do this with a CO₂ push through

Russian River Pliny the Elder

Recipe provided by Vinnie Cilurzo

Ingredients

for 6.0 gallons (22.7 L) [Net: 5 gallons (18.9 L) after hop loss]

13.25 lb	(6.01 kg) two-row pale malt
0.6 lb	(272 g) Crystal 45 malt
0.6 lb	(272 g) Carapils (dextrin) malt
0.75 lb	(340 g) dextrose (corn) sugar
3.50 oz	(99 g) Columbus* 13.90% A.A. 90 min.
0.75 oz	(21 g) Columbus* 13.90% A.A. 45 min.
1.00 oz	(28 g) Simcoe 12.30% A.A. 30 min.
1.00 oz	(28 g) Centennial 8.00% A.A. 0 min.
2.50 oz	(71 g) Simcoe 12.30% A.A. 0 min.
1.00 oz	(28 g) Columbus* 13.90% A.A. Dry Hop (12 to 14 days total)
1.00 oz	(28 g) Centennial 9.10% A.A. Dry Hop (12 to 14 days total)
1.00 oz	(28 g) Simcoe 12.30% A.A. Dry Hop (12 to 14 days total)
0.25 oz	(7 g) Columbus* 13.90% A.A. Dry Hop (5 days to go in dry hop)
0.25 oz	(7 g) Centennial 9.10% A.A. Dry Hop (5 days to go in dry hop)
0.25 oz	(7 g) Simcoe 12.30% A.A. Dry Hop (5 days to go in dry hop)

*Tomahawk/Zeus can be substituted for Columbus

White Labs WLP001 California Ale Yeast or

Wyeast 1056 American Ale Yeast

Original Gravity: 1.070

Final Gravity: 1.011

IBUs: 90-95 (actual/not calculated)

ABV: 8-8.5%

SRM: 7

Directions

Mash grains at 151-152° F (66-67° C) for an hour or until starch conversion is complete. Mash out at 170° F (77° C) and sparge. Collect 8 gallons (30 L) of run off, stir in dextrose, and bring to a boil. Add hops as indicated in the recipe. After a 90 minute boil, chill wort to 67° F (19° C) and transfer to fermenter. Pitch two packages of yeast or a yeast starter and aerate well. Ferment at 67° F (19° C) until fermentation activity subsides, then rack to secondary. Add first set of dry hops on top of the racked beer and age 7-9 days then add the second set. Age five more days then bottle or keg the beer.

Extract Substitution

Substitute 6.5 lb (3.0 kg) of light dry malt extract for two-row malt. Due to the large hop bill for this recipe, a full wort boil is recommended. Steep grains in 1 gallon of water at 165° F (18° C) for 30 minutes, then remove and rinse grains with hot water. Stir in dextrose and top up kettle to 8 gallons (30 L), and bring to a boil. Add hops as indicated in the recipe. After a 90 minute boil, chill wort to 67° F (19° C) and transfer to fermenter. Pitch two packages of yeast or a yeast starter and aerate well. Ferment at 67° F (19° C) until fermentation activity subsides, then rack to secondary. Add first set of dry hops on top of the racked beer and age 7-9 days then add the second set. Age five more days then bottle or keg the beer.

the base of the cone. As a homebrewer, you can swirl your carboy or bucket. With two days to go on the dry hops, the beer is dropped to 32° F.

One final technique I want touch on is the concept of purging the secondary vessel, transfer tubing, kegs and bottles with CO₂. This is something that can be applied to all beers you brew at home and is a regular technique used in com-

mercial breweries. I emphasize this even more with a Double IPA because hoppy beers can oxidize so fast and anything you can do to prevent oxidation will help in the end.

Pliny the Younger

Once we had brewed Pliny the Elder and we learned that Pliny the Elder had a nephew (and adopted son) Pliny the Younger, it was obvious that we had to make an even hoppier beer named Pliny the Younger. It may seem a simple decision to bump the malt and sugar bill up to raise the abv, which in turn would play well with an increase in hops. But I actually considered going the other direction. I thought about going from 8 percent abv (Pliny the Elder's alcohol level) to 6 or 7 percent and raising the hop quantities. The thinking here was that with a lower abv, more hops would blast through the mouthfeel as there would be less of a malt foundation for the hops to sit on. This is still something that I'd like to explore, but in the end, we chose to take the abv up to 10.5-11 percent and significantly raise the quantity of hops.

To make Pliny the Younger, we take our Pliny the Elder recipe and add more two-row malt and dextrose sugar to bring up the abv. We add in a good portion of Amarillo hops, which Pliny the Elder does not see. The Amarillo hops work hand in hand with the Simcoe hops, which is the signature hop in Pliny the Elder. The choice of these hops is very much by design, since these hops are very fragrant and fruity. With the Simcoe hops having a big pine-like aroma and flavor and Amarillo having a big apricot and peach character, these hops will help mask some of the big alcohol flavors that usually come through in a beer that is high in abv.

Where the recipe is not so simple is in the dry hop schedule. As I mentioned, Pliny the Elder is dry hopped twice. This is a technique that I really believe should be a part of all Double IPA recipes. But with Pliny the Younger, we dry hop four times.

The basis of a quadruple dry hop is not just about adding more hops on top of more hops. Often when dry hops are left

too long in your beer, you actually lose some hop aroma. With this technique of quadruple dry hopping, we make the first dry hop addition and let it sit for one week. We then remove the first dry hops from the bottom of the tank via the cone where the hops have settled to. From there we will make the second dry hop addition. These hops sit for one week. At this point, we remove the second dry hops from the cone of the tank. A third and fourth addition of dry hops are added following the same procedure. Throughout this entire process the beer is between 60 and 66° F. Only with two days to go on the fourth and final dry hop addition do we drop the temperature to 32° F where the beer is then fined, but not filtered.

By making four dry hop additions, you are not leaving the hops in contact with the beer too long where hop aroma can sometimes be lost. Obviously to employ this technique you need to have a cone bottom fermenter. But if you don't have one, you might want to consider transferring your beer off the dry hops from one



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fermentation vessel to another and then make your next hop addition. Don't forget to purge your secondary vessel, though.

What's Next?

So now that we have talked about using "traditional" IPA ingredients in an even bigger version of a Double IPA, where can you go from here? To begin with, you could explore the idea of making a super hoppy beer with a lower abv, such as what I considered when I was formulating the Pliny the Younger recipe. Oak chips could also be used in a Double IPA. In fact, when I was making the original Blind Pig IPA and Double IPA at Blind Pig Brewing, each and every batch had an oak chip addition along with the dry hops. We chose to go with American oak chips as they had a harder edge and were not as soft in flavor when compared to French oak.

Another idea I've thought of exploring is the use of non-traditional IPA hops. Maybe instead of the usual suspects such as Cascade, Centennial, Chinook, CTZ, Amarillo or Simcoe, try something different such as Sterling. Or dare I say, East Kent Golding or Styrian Golding for an English Double IPA.

To conclude, a simple malt bill with a small crystal malt addition, a low mash temperature, a sugar addition in the boil, and a second dry hop addition are just a few things you can do to make a great Double IPA. I've shared my own opinions, ideas and techniques that I employ when making Pliny the Elder. In the end, though, you need to make a beer that you want to drink. After all, that's what homebrewing is all about!

Vinnie Cilurzo is owner and brewmaster at Russian River Brewing Co. in Santa Rosa, Calif. 



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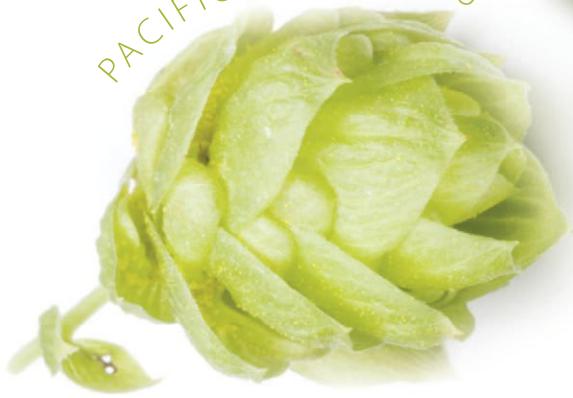
India Pale Ale is a celebration of hops. It's an explosion of hop aroma and flavor as the drinker contemplates the lovely amber nectar. IPA has three branches: American, the original English, and most recently Imperial IPA. These beers are fueled by lupulin lovers for lupulin lovers. In this article, we will explore the American style of IPA, and then compare seven IPAs on varietal hops.

The first IPA was brewed in England. Some were exported to India, and it was found to hold up well during the long trip. To make the journey, it had to cross the hot equator, go on to the cooler waters off the horn of Africa, back across the hot equator, and continue to India—all on a sailing ship! The trip took months. The intense hop flavor, bitterness, increased attenuation and higher alcohol all helped increase the beer's stability, ensuring that English colonists in India would have their thirsts slaked.

Of course, the style was in demand, and it endured, creating a brand new culture and possibly the first lupulin lovers' cult! As craft brewers started exploring new styles to brew in the early 1980s, it was natural that the American tendency for intensity and overdoing would reinvigorate the IPA. A brand new American IPA style was created, along with a brand new generation of hop lovers.



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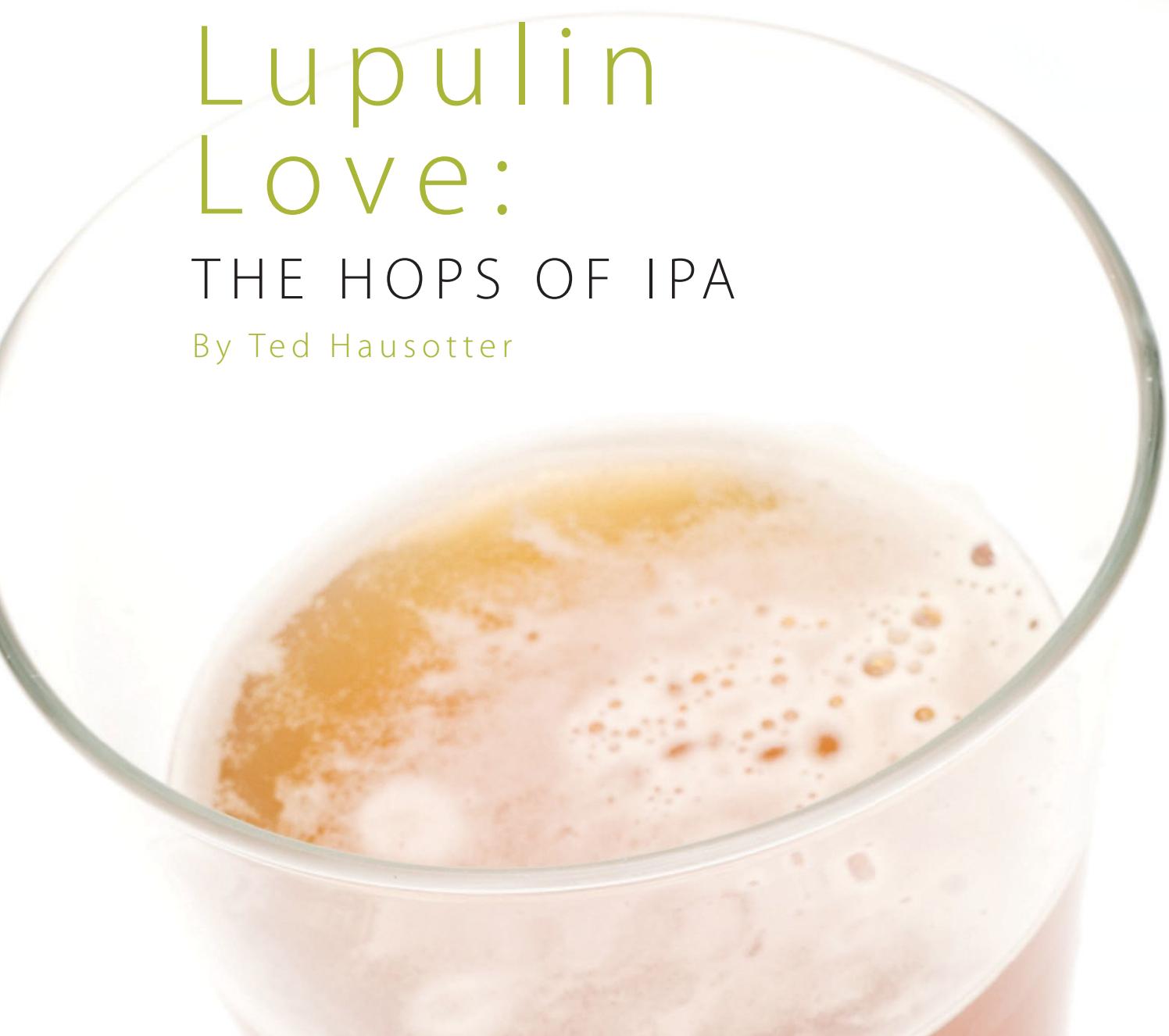
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Lupulin Love:

THE HOPS OF IPA

By Ted Hausotter



Crafting a Great IPA

While bountiful hop aroma and flavor are the hallmarks of the style, IPAs can be thrown out of balance by being too filling, too alcoholic, or too small. IPAs are meant to be drinkable; if you can't drink two pints, your recipe needs work.

In the BJCP guidelines, the top of the style is at 1.075, a no-man's-land between IPA and Imperial IPA. Correspondingly, if the gravity is too low, it can come out as a very hoppy pale ale. The original gravity should be at least 1.060 as the beer should have substance. One of the biggest flaws is having the beer finish too high in gravity—while it will be tasty, it will be harder to drink. The final gravity should be low for such a high starting gravity, below the normal 75 percent attenuation common for American beer styles. This allows the hop flavor to stand out. Final gravity should be in the 1.010 to 1.018 range, leaving a strong, crisp bitterness that can linger long into the finish.

Balance is a virtue in this seemingly one-sided style. Bitterness should be prominent but not overpowering. After all, you want to taste the hop flavor. Malt



Mashing and fermenting the Experiment.

Keys to IPA Success

- Low finish gravity allows hop flavor to come through
- Use cooler mash temperatures, 145-150° F
- Keep specialty malts to a minimum
- Add a lot of late addition hops
- Dry hop the beer, 0.5 to 4 oz per 5 gallons
- Use only fresh, bright hops
- Bitterness should be equal or greater than the original gravity, e.g. 1.065 OG use 65 IBU or more

should temper the large hop flavor and aroma, but not get in the way. Darker or highly kilned malts are out of character for American IPAs, but are making an appearance in a new beer style, the black IPA. Malt's role is to support the delicious hop character.

Malt bills fall into two groups: domestic base malt with some crystal malt, or the addition of English pale ale, Munich or Vienna malts. All additions over the base malt should be lightly done. Make no mistake: IPA is all about hops.

Hop to It

The hops used in American IPAs should have American character, but are sometimes blended with European hops to add intrigue. Citrus notes such as orange, candied orange, tangerine, lemon, lemon skin, grapefruit and grapefruit skin are common. Many IPAs have pine and resin flavors, but they should never take on a chemical or solvent character. Some hops give a wonderful pungent aroma to the beer.

Fruit aromas can also be hop derived. Some hops will morph into peach if you can keep your beer past a few months. To help narrow the field, I asked respected commercial brewers what the perfect IPA hops would be and what to avoid. Talk about a silly question—they are all lupulin lovers and have not found a hop they didn't like!

Hops normally found in American IPA include Cascade, Amarillo, Simcoe™, Centennial, Columbus, Chinook and Crystal. Glacier can impart a minty flavor. Some breweries such as Sierra Nevada use Magnum hops for a smoother bitterness.

Chinook, once a common IPA hop, is falling out of favor due to its catty flavor and harsh bitterness.

Columbus is also a great hop that is citrusy and pungent. It is also known as Tomahawk depending on who markets it. The new hop Zeus is very similar to Columbus—in fact, it is common for brewers to call the group CTZ and interchange as supply dictates. Ahtanum, similar to Cascade, is a good option. Warrior is mild in flavor and used more for bittering than flavor. Magnum is also mild in flavor and a great bittering hop as it is lower in cohumulone. In fact Amarillo, Glacier and Simcoe™ are all low in cohumulone, so they can give a more pleasant bitterness that is not as harsh. See the chart on page 32 for the cohumulone levels in hops.

Choosing the Best Hops

Most of the true great IPA hops would be considered bittering hops and not used for aroma, due to the high alpha acid content. They make great flavor hops. The best rule of thumb is to smell the hops: if they are bright and fresh, they will work well. In American IPA, the hop flavor and aroma is fresh and bold, while the historical English IPA used hops that were cellared, muting the fresh hop flavors. Vacuum sealing, nitrogen purging and cold storage were all developed after the English IPA style started and were found to prolong the fresh, bright hop flavors.

Keep your hop stash frozen and vacuum packed, picking the ones with the best aroma for late kettle additions. Sometimes a year older hop of the same variety will have better aroma characteristics.

Which works better, hop flowers or pellets? Many commercial breweries use hop pellets due to the more stable flavor profile, less loss due to absorption in the kettle and the fact that more hops can be stored in less space. On the other side of the equation, the heat used in processing the pellets can drive off some delicate aromatics. It also takes a lot of time to pelletize a hop crop and the aroma will start to change.

Flower hops, also called cone or leaf hops, can be fresher. But with the greater area

that oxygen can reach, they stale faster, losing their brightness and freshness. They are also harder to handle and store.

Often, it ends up being an equipment or supply issue. Some breweries like Ninkasi in Eugene, Ore. or Full Sail in Hood River, Ore. use pellets, while Sierra Nevada in Chico, Calif. uses whole hop flowers for its beers.

The Process

How, then, to get the best hop flavor? Hops can be added to the beer on the hot side or cold side of processing. Hot side additions include mash, first wort and late kettle hopping. These all give a more stable hop flavor and aroma. On the cold side, after the beer has been made, hops can be added to the fermenter as dry hops. This flavor will fade over time and is best in a few weeks.

Mash hopping is a great way to break up a stuck mash bed. However, Steve Dresler of Sierra Nevada does not like these early additions as he feels the piney notes of myrcene are easily lost when heated. This can also happen when first wort hopping, the traditional German brewing method of adding the hops to the kettle as the sparge runoff is entering. In Pilsners, it gives a fun hop character that is more stable than late addition hopping, but with American IPA, the high alpha acid levels work against this method as it can drive the bitterness too high. While many small craft breweries embraced these methods in the past, many have gone back to traditional kettle hopping for flavor and aroma.

For kettle additions, the traditional hop additions from 15 to 30 minutes from the end of the boil have a greater flavor component as many of the volatile aromatics are vented off in steam. Additions from 15 minutes to the end of the boil have a stronger aroma. They also give a nice, bright flavor versus hops added earlier. My personal preference is to add a lot of hops in the last 20 minutes of the boil. As the gravity goes up, so must your quantity of hops.

Dry hops are usually added after most of the fermentation is complete to preserve as much of the hop aroma as possible.

American IPA

Ingredients for 5.5 U.S. gallons (19 liters)

6.3 lb	(2.8 kg) U.S. two-row malt
4.0 lb	(1.8 kg) English pale ale malt
0.75 lb	(340 g) Crystal 40
0.75 lb	(340 g) Flaked barley

Hop option: Columbus (pick either, not both)

0.6 oz	(17 g) Columbus 12.8% alpha whole hops (30 min)
1.25 oz	(35 g) Columbus 12.8% alpha whole hops (15 min)
1.25 oz	(35 g) Columbus 12.8% alpha whole hops (10 min)
1.25 oz	(35 g) Columbus 12.8% alpha whole hops (5 min)
1.25 oz	(35 g) Columbus 12.8% alpha whole hops (0 min)
1.0 oz	(28 g) Columbus (dry hop 1-2 weeks)

Hold hop bill for ounces and if lower in alpha acid, add a 60 minute boil

Hop option: Cascade (pick either, not both)

1.3 oz	(37 g) Cascade 6.9% alpha whole hops (60 min)
0.6 oz	(17 g) Cascade 6.9% alpha whole hops (30 min)
1.25 oz	(35 g) Cascade 6.9% alpha whole hops (15 min)
1.25 oz	(35 g) Cascade 6.9% alpha whole hops (10 min)
1.25 oz	(35 g) Cascade 6.9% alpha whole hops (5 min)
1.25 oz	(35 g) Cascade 6.9% alpha whole hops (0 min)
1.0 oz	(28 g) Cascade (dry hop 1-2 weeks)

Hold hop bill for ounces and if alpha acids differ, adjust quantity in the 60 minute boil

Wyeast 1028 London Ale yeast

Efficiency: 80%

Original Gravity: 1.063

IBUs: 68

Directions

Mash malt at 149° F (65° C) till converted. Collect wort, adjust for volume and start your boil. After boiling 15 minutes add bittering hops, if required. Add the next hop addition at 30 minutes from end of boil and follow the timing in the hop bill. Chill and let cold break settle then rack off the trub. Oxygenate the wort and add yeast. After fermentation, add dry hops. Note: recipe allows 1 quart loss due to the hops absorbing beer and 1 quart for trub.

Extract Version

Due to the large amount of hops in this recipe, a full wort boil is recommended. Substitute 6.5 lb of light liquid malt extract for two-row and pale ale malts and flaked barley. Steep crystal malt in 1.5 gallons (5.7 L) of water at 160 F for 30 minutes. Strain and rinse with hot water. Top up kettle to 6 gallons (22.7 L), stir in extract and bring to a boil. Follow remaining directions above.



When initially added to the beer, you may notice a grassy note with larger additions. It is dependent on hop variety and the overall flavor of the beer being big enough to support the hop addition. In about five days it should fade and the bright fresh hop aromatics should come forth. With

IPAs, small additions in the 0.5-ounce or less range can be left in the beer until consumed. Larger amounts usually take on a vegetable note that is not as pleasant, and are usually removed after two weeks. Dry hops can be put into a weighted bag or loose in the keg or fermenter if you have a

screen for the out tube.

Yeast is the final consideration. As the style is all about hops, avoid the phenol-producing yeast from Germany and Belgium. The most common is the American ale yeast strain similar to Wyeast 1056, which produces a more neutral profile. English strains also do well, but esters should be kept on the lower side. Good English strains are Wyeast 1028, 1099 and 1275. The White Labs equivalents are also good choices.

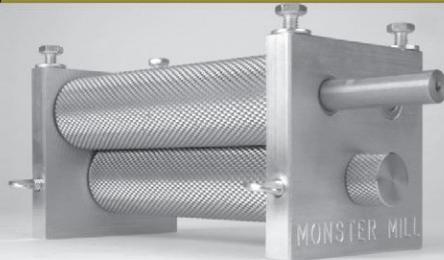
Cohumulone Levels

Ahtanum	30 – 35%
Amarillo	21 – 24%
Cascade	33 – 40%
Centennial	29 – 30%
Chinook	29 – 34%
Columbus	30 – 35%
Crystal	20 – 26%
Glacier	11 – 13%
Magnum	24 – 28%
N Brewer	20 – 30%
Simcoe™	15 – 20%

Source: HopUnion data book

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The Experiment

To find the best IPA hops, I brewed a 35-gallon batch of IPA in two 15-gallon mash pots and drained into a large kettle. The sweet wort was well mixed and then drained into seven separate boil kettles. The recipe kept the flavor and aroma additions to the beer the same in ounces, varying the first addition to match bitterness. The seven hops used were Amarillo, Cascade, Centennial, Columbus, Simcoe™, Pacific Hallertau and New Zealand Riwaka. All beers had the same yeast: two packages of Wyeast 1028 accelerator without starters. Fermentation temperature was 62° F. To help some finish, they were shaken and the temperature increased to 72° F. They were force carbonated and stored cold for one week. Dry hops were not added prior to tasting. All tastings were blind, with the hop variety unknown, by BJCP judges and members of the Good Libations homebrew club.

The following flavor descriptions are meant only as a guide, as different storage and crop conditions can affect the flavors. Special thanks to Wyeast for donating the yeast used to brew the test beers and to BrewCraft for donating the New Zealand

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hops and the malt for the test beers.

Amarillo: OG 1.067, FG 1.020. Medium low fruity esters, primarily berry. Malt is medium low with bread crust notes. Hops are reminiscent of old oranges in aroma and candy orange in flavor at a medium level. Low grapefruit, pine and pungent character. The beer was a bit sweet, which was distracting. This hop needs brewing again with better fermentation controls to lower

the final gravity. Ranking: 4th or 5th.

Cascade: OG 1.067, FG 1.016. Low fruity esters with berry and black cherry. Malt is medium low with bread and bread crust notes. Hop aroma is medium old oranges with medium low grapefruit. Pine and pungency were also noted. The orange character is more like candy. Low earthy and wood notes. Each taste brought out different flavor experiences. The biggest

ride of all seven. Ranking: 3rd.

Centennial: OG 1.068, FG 1.020. Low indistinct fruity esters and low bready malt. Hop aroma is monolithic and not exciting, old orange aroma and candy orange flavor. Of the group, this one has the most orange-only profile. No noticeable sweetness from the high finish gravity. Alcohol noted. As a favorite hop of mine, it was disappointing. Ranking: 4th or 5th.

Columbus: OG 1.065, FG 1.015. Very low bruised apple ester. Malt is bread and bread crust at a medium level with light caramel. Hops are the second highest for grapefruit of the seven brewed. Orange notes are medium low, as is the pungency. Pine character is low along with some spicy notes. Some alcohol noted. Ranking: Tied for 1st.

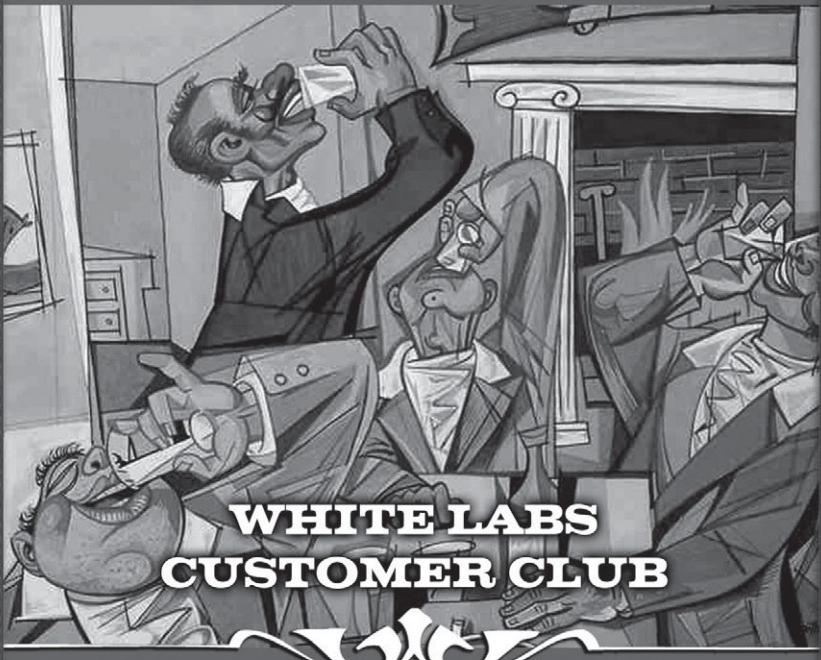
Pacific Hallertau, New Zealand: OG 1.072, FG 1.020. Low berry ester that grows as the IPA warms. Malt is well supportive with medium low crust and caramel notes. Hops are medium overall with orange, pungent, floral and grapefruit skin. Not the best IPA hop, but adds intrigue to blends. Alcohol noted in flavor and aroma. Don't let the Hallertau name fool you: it does not have a German flavor. Ranking: 6th.

Riwaka, New Zealand: OG 1.065, FG 1.012. Low esters of pear and black cherry. Malt is medium low with bread and bread crust. Hop character is medium with old oranges, grassy, pungent, pine and earthy notes. Not our favorite IPA, perhaps a better English IPA hop. Ranking: 7th.

Simcoe™: OG 1.062, FG 1.013. Very low fruity esters. Malt is also low, mainly of bread with very light crust and caramel. Hop character shows the largest grapefruit flavor of the lot. Hops come through at a high level. Low orange, pungency and very light floral. Ranking: Tied for 1st.

Ted Hausotter is an award-winning homebrewer from Baker City, Ore. and the Mountain/Northwest regional representative for the Beer Judge Certification Program.

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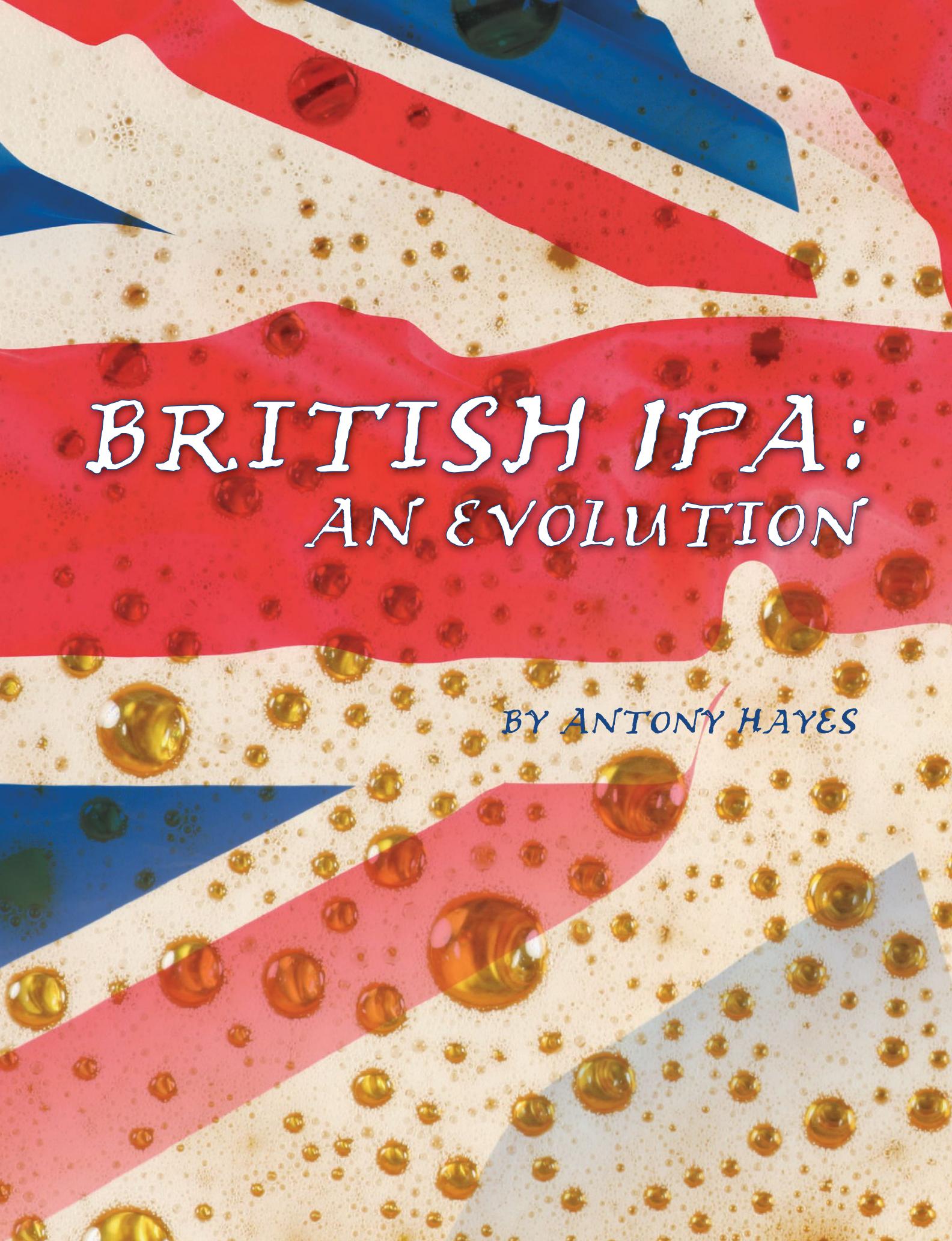


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BRITISH IPA: AN EVOLUTION

BY ANTHONY HAYES



The name India Pale Ale (IPA) covers a range of beers almost as big as porter. This is understandable for a style that is more than 250 years old, although it does result in lengthy arguments about what a true IPA is. Visitors to Britain wonder at Greene King IPA and Meantime IPA sitting on the same shelf in the supermarket, weighing in at 3.6 percent and 7.5 percent abv respectively. Can they both be IPAs?

To make sense of things, I like to subdivide IPA into five main eras, starting roughly at the following dates:

- 1752: London IPA
- 1822: Burton IPA
- 1840: Domestic IPA
- 1914: Post War IPA
- 1980: Resurgent IPA

Considering what happened in each era will help you to understand the reasons for the development of the different types of IPA, and to develop your own appropriate recipes.

LONDON IPA

London IPA started life called October beer. (October beer was a strong, pale, well-hopped beer, brewed in the autumn. It was typically kept for at least two years prior to drinking.) While many brewers brewed October beer, George Hodgson of the Bow Brewery was the first to make money shipping this beer to India. Hodgson shipped a number of different types of beer, including porter and small beer, but his October beer underwent an unexpected transformation on the voyage. The beer was typically a year old when shipped, having waited to catch favorable winds and avoid the monsoon. However, after spending only a further three to four months at sea, the beer arrived tasting as though it had sat in a cellar for many years.

Hodgson made his name and fortune out of this IPA, but he was still calling it October beer in 1823. Although his beer was good, Hodgson's success was in no small part due to the terms on which he supplied the beer to the East India Company's officers, who at the time shipped and sold the beer in India. Generous credit terms meant that they could buy the beer and pay Hodgson only when they returned from their voyage.

BURTON IPA

In 1822, George's grandson, Frederick Hodgson, attempted to increase the brewery's profit by cutting out the middlemen. Campbell Marjoribanks, representing the East India Company, approached Samuel Allsopp of Burton to provide an alternative to Hodgson's beer. Job Goodhead,

1752
LONDON IPA

1822
BURTON IPA

1840
DOMESTIC IPA

1980
RESURGENT IPA

1914
POST WAR IPA

Allsopp's maltster, developed a suitably pale malt (around 1.5 SRM) and the first Burton IPA was brewed, supposedly in a teapot. The high calcium sulfate content of Burton water made Allsopp's beer taste and look better than Hodgson's, and Allsopp—and soon other Burton brewers—rapidly took market share from the London brewers. Other British cities and towns got in on the act, and soon IPA was being brewed successfully in Edinburgh, Alton, Stratford upon Avon and Tadcaster. All of these had water rich in calcium sulfate. By the 1880s, brew-

ers in other locations learned how to "Burtonize" their brewing liquor, and IPA became a truly British beer.

At this point it is worth mentioning two significant IPA variations. Edinburgh IPAs initially enjoyed warmer mash temperatures, lower hopping rates (around two-thirds of that used for Burton IPAs), longer boiling times, and longer, cooler fermentations. By 1890, a third of the IPA exported from Britain was brewed in Scotland, although by that time Edinburgh IPA was fairly similar to Burton IPA. A

second variant was West India Pale Ale. Brewed mainly in Ireland, this was a fuller bodied version of East India Pale Ale.

DOMESTIC IPA

IPA took longer to capture the domestic market, only really taking off in 1840. Although myths abound, the main reason for the beer's improved fortunes at home seems to have been the railway network reaching Burton. In 1847, W.H. Roberts wrote, "When our countrymen returned home, they felt the want of their 'Hodgson,' and in consequence, it is more than probable that some of the influential among them urged the brewers to make a similar article for the home trade."¹ Domestic IPAs came to be hopped at around half the rate of export versions, and were sold after only two months' maturation. This was to reduce price, as Burton IPA typically sold at twice the price of porter.

POST WAR IPA

A steady increase in taxes after World War I resulted in gravity drops, as brewers tried to keep their beers affordable. Post War IPA got weaker and weaker, and by the 1930s IPAs with original gravities of 1.040 were becoming common. Crystal malt increasingly entered the grist in the quest to produce "running ales," i.e. beers that could be served sooner after brewing. This pursuit of shorter turnaround time

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ICE PICK IPA

Ingredients for 5 U.S. gallons (18.9 L)

11.0 lb	(5 kg) extra pale malt (preferably floor malted Maris Otter)
1.1 lb	(500 g) sugar
1.13 oz	(32 g) Saaz (3.5% AA) 80 minutes
1.13 oz	(32 g) Cascade (5% AA) 80 minutes
2.26 oz	(64 g) Styrian Goldings (5% AA) 10 minutes
1.76 oz	(50g) East Kent Goldings (4.75% AA) dry hopped after maturation Nottingham ale yeast (22g if using dry yeast)

Original Gravity: 1.073

Final Gravity: 1.012

IBU: 46

Mash Efficiency: 75%

Directions

Reduce your water's total alkalinity to 30-50 ppm (as CaCO₃). Adjust calcium content to 180-220 ppm using calcium sulphate. Mash in at 149° F (65° C) and hold for starch conversion. Mash out at 169° F (76° C). Boil for 80 minutes, adding hops as indicated. Ferment at the cool end of the yeast range, 57-64° F (14-18° C). Rack into maturation tanks and mature for a year. Rack into dispensing tanks/casks and dry hop. Give it a few days before serving for dry hop character to develop, with the kegs/casks given a good roll around the yard daily for the first few days.

Extract Version

Substitute 6.75 lb (3.1 kg) of light dry malt extract for pale malt. Reduce boil time to 60 minutes and increase Saaz and Cascade hop additions to 2.0 oz (57 g) each. Bring 2.5 gallons (9.5 L) of water to a boil then remove from heat. Stir in extract and sugar and return to a boil. Add Saaz and Cascade hops, boil 50 minutes then add Styrian Goldings hops and boil 10 minutes more before removing from burner. Strain into fermenter with enough cold water to make 5 gal (18.9 L). When temperature drops to 57-64° F (14-18° C), pitch yeast and aerate well. Once fermentation is complete, rack into maturation tank and mature for a year. Rack into dispensing tank/cask and dry hop. Give it a few days before serving for dry hop character to develop, with the kegs/casks given a good roll around the yard daily for the first few days.

contributed to the rise of what we now call Bitter, and by 1948, IPA had almost died out. In the 1970s, beers like Greene King IPA, with an original gravity of only 1.036, carried the name if not the spirit.

RESURGENT IPA

The resurgence of IPA as a style began in the U.S. in the 1980s. In Britain, the revival is credited by many people to Mark Dorber, then manager of the White Horse on Parsons Green (worth a visit, if you're ever in London). Driven by a fascination with the style, Dorber organized seminars, produced papers and arranged brewings of old recipes. He was aided by the Durden Park Beer Circle, which since 1972 has carried out much work researching and brewing historic recipes, and has contributed significantly to the modern understanding of IPA in the UK. The homebrewers at Durden Park have helped their professional counterparts on more than one occasion. Renewed interest by commercial brewers has resulted in a range of locally produced IPAs in Britain that hark back to the beers of the 1800s. Once again, there are British IPAs that are strong and hoppy.

ACHIEVING IPA'S ESSENCE

To capture the essence of IPA, it helps to consider the impression that it left on people through all its variations. The Calcutta Gazette ran an advertisement



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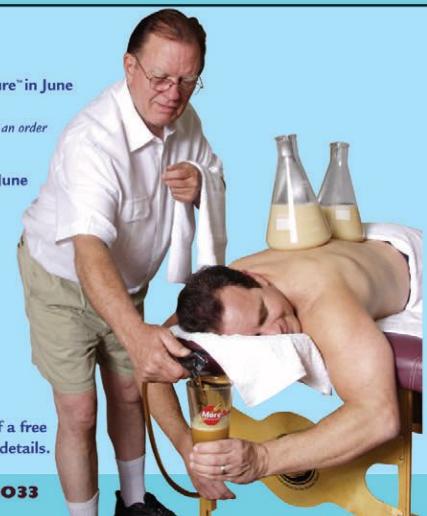
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in 1784 for "light and excellent" pale ale⁵. A merchant wrote to Allsopp in 1823 describing his beer as, "excellent indeed, of a bright amber colour, clear as crystal and a very peculiar fine flavour."⁵ Jonathan Pereira described India Pale Ale in 1843 as, "carefully fermented, so as to be devoid of all sweetness."⁵ Waltham Brothers' brewery described its IPA in 1898 as "heavily hopped with the very best Kent hops."⁵ Mark Dorber said, "It's like putting your head inside a hop pocket from the Kent fields."³

In building your beer, you need to start with the brewing liquor. Burtonizing with

**FERMENT THE BEER AS YOU WOULD AN ALE, BUT
BE PREPARED TO ALLOW THE BEER TO MATURE.
DRINKING AN IPA THAT IS LESS THAN A YEAR OLD
DOES NOT DO IT JUSTICE; AIM FOR ~18 MONTHS.**

calcium sulfate is the key to softening the high level of bitterness required. For the malt, a traditional varietal, preferably floor malted and produced to extra pale malt specifications is required. Keep specialty malts out. East Kent Goldings are your best bet for a traditional beer, however remember that Britain was the center of the commercial world in the 1800s and

her brewers had access to the best that the world had to offer.

Whichever hop you use, you will need plenty of them. Pick an ale yeast that ferments relatively dry, but that provides the esters that are the signature of British ales. Ferment the beer as you would an ale, but be prepared to allow the beer to mature. Drinking an IPA that is less than a year old does not do it justice; aim for 18 months.

If you want to brew a replica of a traditional IPA, the Durden Park book (see references) is the place to look. Ice Pick Ale fits better into the resurgent category, capturing the essence of IPA, but incorporating some modern touches.

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Antony Hayes is a homebrewer who lives in Hildenborough, Kent. He started brewing in 1988 and has enjoyed success at a national level. He is a BJCP judge and has judged national competitions on three continents, along with being on the judging panel for the Champion Beer of Britain competition.

COMMERCIAL CALIBRATION

One way beer judges check their palates is by using commercial "calibration beers"—classic versions of the style they represent. Zymurgy has assembled a panel of four judges who have attained the rank of Grand Master in the Beer Judge Certification Program. Each issue they score two widely available commercial beers (or meads or ciders) using the BJCP scoresheet. We invite you to download your own scoresheets at www.bjcp.org, pick up a bottle of each of the beverages and judge along with them in our Commercial Calibration.



Two IPAs were on hand for our Calibration judges this issue. First up was Nectar IPA from Nectar Ales in Paso Robles, Calif., a division of Firestone Walker. Nectar Ales was founded in 1987 as one of California's pioneering microbrewers, and Nectar Ales are brewed with all-natural ingredients.

IPA Nectar, an American IPA that won gold medals at the 2004 and 2006 World Beer Cups and a silver in 2008, is aggressively hopped throughout the brewing process with Chinook, Mt. Hood, Cascade and Centennial, including a dry hop with Chinook and Centennial. It is brewed with premium two-row, white wheat, crystal and Carapils malts, and is 6.7 percent alcohol by volume.

"A beautiful, flowery hop aroma will greet you as you dive into this hop lover's dream," says the promotional sheet for Nectar IPA. Indeed, our judges found a "gardenia"-like floral aroma greeting them as they poured the beer, along with citrusy notes. "A middle caramel malt presence balances high hop bitterness with hop flavor end to end—learn to love hops!"

Shifting gears, next up was an English IPA from Wild Goose Brewery in Frederick, Md. Established in 1989, Wild Goose was purchased by Flying Dog Brewery in 2006, who now brews both brands.

Wild Goose is an award-winning IPA brewed with Munich, crystal and Carapils malts, hopped with Horizon and Golding, and fermented with Ringwood ale yeast. It checks in at 6.0 percent alcohol with 50 IBU. It is "medium-bodied with biscuit-like toasted malt character and spicy, earthy and grassy hop notes that finish dry," according to the Wild Goose Web site.

Our judges found it to be a very drinkable IPA with "nice English flavors." Suggested pairings include smoked Gouda, sausage, sharp dressings, and spice cake. Plus, "Nothing is better than a Wild Goose IPA paired with a plate of Maryland crabs," if you happen to be that lucky.



ON THE WEB

Nectar Ales
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THE SCORES



Nectar IPA—Nectar Ales, Paso Robles, Calif.
BJCP Category: 14B American IPA

THE JUDGES' SCORES FOR NECTAR IPA



Aroma: Citrus and floral hop aroma is wonderful, almost like gardenias. Just enough caramel and pale malt aroma to balance the hops, not challenge them. No DMS or diacetyl. Fruity esters from fermentation are reminiscent of apricots and strawberries. (10/12)

Appearance: Orange/amber color. Brilliant clarity. Thick, rocky long lasting head. Moderate carbonation. (3/3)

Flavor: Sweet caramel and pale malt up front with assertive hop bitterness, high grassy, citrus and floral hop flavor and noticeable alcohol combine to form a delightful beer with a punch. Well balanced with a lingering bitterness and some hop astringency in the aftertaste. No DMS or diacetyl. Fruity esters combine with the alcohol to yield an interesting floral flavor, however the alcohol is a bit "hot." (16/20)

Mouthfeel: Medium bodied. Very warming alcohol presence. Light hop astringency accompanying the bitterness, bordering on harsh, is more pronounced as the beer warms. (3/5)

Overall Impression: Definitely a hop-head beer. Hop aroma and flavor are excellent. Bitterness is a bit overpowering for the malt backbone and the hop-derived astringency is somewhat assertive. Still quite drinkable and enjoyable, especially with a spicy sausage pizza. A truly American IPA. (7/10)

Total Score: (39/50)



Aroma: Intense resinous hop aroma is matched with an equal level of caramel malt. Hint of ripe stone fruit esters, black red-fleshed plums, tree-ripe apricots. No off aromas or diacetyl. (10/12)

Appearance: Copper gold with brilliant clarity. Off-white foam is not persistent, falls quickly to a film of white bubbles on the surface of the beer. (2/3)

Flavor: Deep caramel toffee malt with intense resinous hop that is at first reminiscent (in a good way) of the diesel and rubber smell of an auto shop, but fades to evergreen, white fir needle tips. Malt turns sweet midway, mixing well with fruity, ripe red cherry esters and the same black plum, then a hit of sulfur comes through mid-palate to end. Elegantly balanced among full, sweet malt, resinous evergreen hop flavor, and a firm, lingering hop bitterness. Fruitiness fades a bit as the beer sits, and a hint of roast emerges in the finish. (17/20)

Mouthfeel: Medium full body with medium carbonation. Alcohol warming lasts into the finish. Texture is somewhat creamy, with no astringency. (4/5)

Overall Impression: Well balanced between sweet malt richness and complex hop character. Surprisingly less bitter than the initial aroma suggested, with the hop character presenting rather chameleon-like, changing from the initial hit to the tongue to the last of the finish. Probably fuller bodied than what is generally found in the best classic examples, but a lighter bodied product would likely not carry the complexity. Chinook and Centennial hops described in the literature are not delicate, but then neither is this style. This is one for sipping while sitting on the deck at sunset. (8/10)

Total Score: (41/50)



Aroma: Light citrus notes come through first, with a little lemon but primarily tangerine. There is some earthiness in the background, along with some caramel and honey malt character. As it warms, I pick up a little graininess and alcohol, but these are in balance with the other aroma components. Very nice so far. (10/12)

Appearance: Brilliant clarity, with a tightly-beaded head that lasts well. The polished copper has some orange notes that visually support the citrus notes in the aroma. (3/3)

Flavor: There is moderate biscuit and caramel malt up front, and a sustained malt backbone. The hop flavor is more subdued than I anticipated from the aroma and is more earthy than floral. The citrus character is mild compared to most American IPAs. The yeast character is pleasant—it leaves a little woodiness in the finish, and this works well with the hop bitterness. (16/20)

Mouthfeel: There is some soapiness—perhaps from the high hop rate—along with some astringency that lingers on the palate. There is some alcohol warmth that is in balance. (3/5)

Overall Impression: This beer is a good example of the style, albeit with less flavor complexity than typical IPAs. It makes up for some of this lack of depth with an interesting aroma that starts with key lime notes and finishes with tangerines. The malt was sustained throughout and was in balance with the hop bitterness. A little more hop flavor and a smoother finish would be welcome, but this was a well-crafted beer that was a pleasure to drink. (8/10)

Total Score: (40/50)



Aroma: Big fresh hop nose—piney, citrusy. Has a fresh grassy dry hop quality to it. Low clean malt, fairly neutral grain character. Light fruity esters, suggestive of peaches or apricots. Fairly clean. Hops are strong, fresh and inviting. Malt is definitely in the background. (11/12)

Appearance: Medium amber color. Clear. Low off-white head, settled quickly—disappointing. (2/3)

Flavor: Strong bitterness. Clean malt and hop flavors. Long, bitter finish. Medium-low esters, like apricots. Medium-high hop flavor—piney, citrusy. Bitterness lingers in aftertaste, slightly harsh but mostly a clean bitterness. Hops have a woody, evergreen flavor, and are a little rough. Very clean fermentation profile and malt backbone. Good balance with the malt supporting the forward hop presentation. (17/20)

Mouthfeel: Medium body. Medium-high carbonation. Light hop astringency. Low alcohol warmth. (4/5)

Overall Impression: An aggressive, hop-forward beer. The hops are a little woody/piney, which makes them taste a little rough; might be a simple matter of hop variety selection (Chinook). The malt backbone is very clean. Nice light esters, possibly from hops, play well with the neutral malt character. Hops are fairly pure in flavor and generally clean except for the little roughness and harshness, although whether this is an issue or not could be up to personal preference. Has a definite American character. A good example of an aggressive West Coast-type IPA. It's nice to see the alcohol isn't pushed over the top. (8/10)

Total Score: (42/50)



THE JUDGES' SCORES FOR WILD GOOSE IPA



Aroma: Medium to high earthy hop aroma with supporting toasted, toffee and caramel malt backbone. No DMS or diacetyl. Alcohol is evident. Moderate fruity fermentation esters. Very inviting aroma. (10/12)

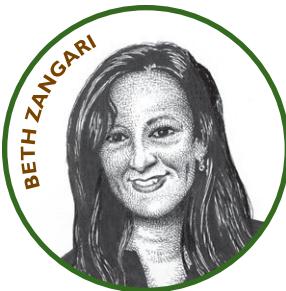
Appearance: Light copper color. Brilliant clarity. Thick, rocky, long-lasting head. Medium carbonation. (3/3)

Flavor: Sweet, bready, toasted malt flavor up-front with balanced assertive hop bitterness that lingers into the aftertaste. Medium earthy hop flavor complements the toasted malt very well. No DMS or diacetyl. Moderate yeast-derived fruity esters. Alcohol is fairly assertive. Dry finish from a sweet start. (18/20)

Mouthfeel: Mild warming from alcohol. Medium bodied. Smooth but with assertive bitterness that lingers. Low hop-derived astringency in aftertaste. Moderate carbonation lends to dry finish. (4/5)

Overall Impression: Very drinkable beer that has an inviting blend of hops and malt that meld to form a classic English IPA. Very clean; well made. I can just imagine this with a meat pie and mushy peas on a cold London day. Yum. (8/10)

Total Score: (43/50)



Aroma: Biscuity malt with a touch of caramel; earthy hop follows a somewhat strong sulfur note that dissipates fairly quickly, allowing a significant alcohol aroma to come forward. This too diminishes as the beer sits, and gives way to a clean sugary aroma that accents the spicy hops. (9/12)

Appearance: Brilliantly golden with well-formed off-white, persistent foam stand; fills half the glass. As the head slowly collapses, it takes on a rocky texture and pearly sheen. (3/3)

Flavor: Lightly toasted malt up front gives way to sweetness that supports the moderate spicy, earthy hop flavors. An unexpected smoky note present, allowing the supporting bready, sugary sweet malt to better showcase the hops flavor; balance is toward bitterness still. Other than the sulfur mineral note, this beer is very clean. Hop presence is much more bitter than flavor, and is accentuated by a mineral dryness at the end. Bitterness lingers long into the finish. As the beer sits a little, sweet malt becomes more prevalent, and balance shifts more evenly among sweet, mineral and bitter. (16/20)

Mouthfeel: Medium body; carbonation is at first medium high, but softens quickly. Fairly significant alcohol warmth observed, but character is not hot; no astringency present. (4/5)

Overall Impression: The malt character of this beer is more evidently English than the hop character. Fermentation is very clean, missing the fruitiness that adds complexity. The mineral dry finish that accentuates hop bitterness is pleasant, adding to the drinkability of this beer. This would go well with sweet'n'spicy foods, like barbecued ribs. (7/10)

Total Score: (38/50)



Aroma: Earthy, minerally metallic notes with some graininess. There is some toasted malt character in the background, but leans to the grainy side rather than biscuit or toast. The yeast fruitiness adds complexity and blends with some floral hops notes, and I also pick up a little alcohol. (9/12)

Appearance: Great clarity, and the light copper color is on the money. The head crackles and fades a little too quickly. (2/3)

Flavor: There is more malt depth than I expected from the aroma, and there is some backbone that is balanced by the hop bitterness. I pick up floral and earthy hop notes in the middle, along with light yeast esters. These are background elements—the primary flavors are malt up front with a quick transition to a moderate hop bitterness and mineral notes in the finish. The balance is good, but there is not a lot of depth. (16/20)

Mouthfeel: There are moderate residual sugars, but the grainy and metallic notes come out a little too strongly and are accompanied by some astringency. I also pick up a slight alcoholic warmth. (4/5)

Overall Impression: This is a pleasant beer, with a good balance between the malt sweetness and hop bitterness. A little more hop aroma would improve the nose, while more fermentation character would add complexity. The metallic notes and graininess detract a little from the finish but could result from Burtonization of the brewing liquor. All in all, it was a well made beer that would be worthy of a second bottle or pint. (7/10)

Total Score: (38/50)



Aroma: Moderate hops with an earthy, floral and herbal quality, but also with a lightly metallic note. Soft bready English malt character. Light esters. Low caramel. Hops are the strongest component. The malt builds as it warms. The metallic quality detracts. (9/12)

Appearance: Moderate off-white head, frothy. Clear. Deep gold color with hints of orange. (3/3)

Flavor: Strong bitterness, lingering into the finish with a little harshness. Bready base malt, very English. Moderate earthy, herbal hop flavor. Light esters. Fairly dry finish with a light sulfury quality. A touch of alcohol also adds to the dryness in the finish. The bitterness dominates the palate, but the harshness detracts. Hint of caramel and floral hops. The malt and yeast quality is very English. (16/20)

Mouthfeel: Medium body. Medium carbonation. Light hop astringency. Low alcohol warmth noted. (4/5)

Overall Impression: Harshness of bitterness is a bit high for my tastes. Nice English flavors, particularly in the malt and hops. The yeast is a little sulfury but not very estery. The dryness works well but accentuates the bitterness along with the alcohol. A little more esters and less harshness would help the overall balance. Maybe sulfates in the water and the hop varieties are combining to give it a metallic nose. The bready malt is the nicest quality, and the balance is very traditional. Note that I tried two bottles of this beer and they tasted different; one was much better than the other (less harshness and metallic qualities, more caramel and esters). This scoresheet talks about both beers, but I probably would have scored them 35 and 42 individually. (8/10)

Total Score: (40/50)

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By Charlie Papazian

Stouts Float My Boat



February is Stout Month at Boulder, Colo.'s Mountain Sun brewpub. For 28 days it was standing room only in what used to be their "slowest month." To whomever had the bright idea to stout-theme February, I am forever grateful. OK, it's early summer now, but I can reminisce, can't I?

So many stouts, so little time. Thirteen house-brewed stouts rotated in and out of the available taps while accompanying more than 14 guest stouts from both American and foreign brewers. Guinness was nowhere to be found, wasn't missed, nor would have held a candle's flicker to what was on tap.

There may be a recession going on, but it was a happy time to be a stout lover.

Three separate sessions swept me through all but one of their house-brewed stouts.

Nocturnal Smokey Old Ale All Grain Recipe

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

3.0 lb	(1.36 kg) two-row pale malt
3.0 lb	(1.36 kg) German Rauchmalz (smoked malt)
2.5 lb	(1.15 kg) Munich malt
1.0 lb	(454 g) wheat malt
1.0 lb	(454 g) crystal malt (75 degrees L)
8.0 oz	(225 g) Belgian special-B malt
6.0 oz	(168 g) debitterized black malt
6.0 oz	(168 g) chocolate malt
6.0 oz	(168 g) Belgian aromatic malt
9.0 oz	(250 g) Brazilian rapadura sugar (the darker the better)
1.0 oz	(28 g) UK Kent Goldings hops 6.3% alpha (6.3 HBU/176 MBU) 60 min
0.75 oz	(21 g) Cascade hops 5% alpha (3.8 HBU/105 MBU) 20 min
0.5 oz	(14 g) UK Kent Golding hop pellets, dry hop
0.25 tsp	(1 g) powdered Irish moss English or American type ale yeast
0.75 cup	(175 ml measure) corn sugar (priming bottles) or 0.33 cup (80 ml) corn sugar for kegging

Target Original Gravity: 1.069 (16.8 B)

Target Extraction Efficiency: 77%

Approximate Final Gravity: 1.010 (4 B)

IBU's: about 30

Approximate Color: 44 SRM (88 EBC)

Alcohol: 6.3% by volume

Directions

A step infusion mash is employed to mash the grains. Add 12 quarts (11.5 l) of 140° F (60° C) water to the crushed grain, stir, stabilize and hold the temperature at 132° F (53° C) for 30 minutes. Add 6 quarts (6 l) of boiling water and add heat to bring temperature up to 155° F (68° C) and hold for about 30 minutes. Then raise temperature to 167° F (75° C), lauter and sparge with 3.5 gallons (13.5 l) of 170° F (77° C) water. Collect about 5.5 gallons (21 l) of runoff. Add 60-minute hops and rapadura sugar and bring to a full and vigorous boil.

The total boil time will be 60 minutes. When 20 minutes remain add the 20-minute hops. When 10 minutes remain add the Irish moss. After a total wort boil of 60 minutes turn off the heat and place the pot (with cover on) in a running cold-water bath for 30 minutes. Continue to chill in the immersion or use other methods to chill your wort. Then strain and sparge the wort into a sanitized fermenter. Bring the total volume to 5 gallons (19 l) with additional cold water if necessary. Aerate the wort very well.

Pitch the yeast when temperature of wort is about 70° F (21° C). Ferment at about 70° F (21° C) for about one week or when fermentation shows signs of calm and stopping. Rack from your primary to a secondary and add the hop pellets for dry hopping. If you have the capability "cellar" the beer at about 55° F (12.5° C) for about one week.

Prime with sugar and bottle or keg when complete.

The varieties ranged from a faithful session Old School Stout to the spectacular imperial and bourbon oaked super stouts. The variety was an inspiring experience. It led me down another creative path with what could be done with an Old Ale style

of beer. But first, let me share my stout immersions.

Thunderhead Stout: Rich, extravagant brown head and lusty with a full bodied flavor of chocolate and toasted malts. A

Nocturnal Smokey Old Ale

Mash/Extract Recipe

Ingredients

for 5 U.S. gallons (19 liters)

5.5 lb	(2.5 kg) amber malt extract syrup or 4.5 lb (2 kg) amber DRIED malt extract
2.0 lb	(1.36 kg) German Rauchmalz (smoked malt)
1.0 lb	(454 g) crystal malt (75 degrees L)
8.0 oz	(225 g) Belgian special-B malt
6.0 oz	(168 g) debitterized black malt
6.0 oz	(168 g) chocolate malt
6.0 oz	(168 g) Belgian aromatic malt
9.0 oz	(250 g) Brazilian rapadura sugar (the darker the better)
1.25 oz	(35 g) UK Kent Goldings hops 6.3% alpha (7.9 HBU/220 MBU) 60 min
0.75 oz	(21 g) Cascade hops 5% alpha (3.8 HBU/105 MBU) 20 min
0.5 oz	(14 g) UK Kent Golding hop pellets, dry hop
0.25 tsp	(1 g) powdered Irish moss English or American type ale yeast
0.75 cup	(175 ml measure) corn sugar (priming bottles) or 0.33 cup (80 ml) corn sugar for kegging

Target Original Gravity: 1.069 (16.8 B)

Target Extraction Efficiency: 77%

Approximate Final Gravity: 1.010 (4 B)

IBU's: about 30

Approximate Color: 44 SRM (88 EBC)

Alcohol: 6.3% by volume

Directions

Heat 5 quarts (4.75 l) water to 172° F (77.5° C) and add crushed grains to the water. Stir well to distribute heat. Temperature should stabilize at about 155° F (68° C). Wrap a towel around the pot and set aside for about 45 minutes. Have a homebrew.

After 45 minutes add heat to the mini-mash and raise the temperature to 167° F (75° C). Pass the liquid and grains into a strainer and rinse with 170° F (77° C) water. Discard the grains.

Add to the sweet extract you have just produced more water, bringing the volume up to about 3 gallons (11.5 l). Add malt extract and 60 minute hops and bring to a boil.

The total boil time will be 60 minutes. When 20 minutes remain add the 20-minute hops. When 10 minutes remain add Irish moss. After a total wort boil of 60 minutes turn off the heat.

Immerse the covered pot of wort in a cold water bath and let sit for 15-30 minutes or the time it takes to have a couple of homebrews. Strain out and sparge hops and direct the hot wort into a sanitized fermenter to which 2 gallons (7.5 l) of cold water has been added. If necessary add cold water to achieve a 5 gallon (19 l) batch size. Aerate the wort very well.

Pitch the yeast when temperature of wort is about 70° F (21° C). Ferment at about 70° F (21° C) for about one week or when fermentation shows signs of calm and stopping. Rack from your primary to a secondary and add the hop pellets for dry hopping. If you have the capability "cellar" the beer at about 55° F (12.5° C) for about one week.

Prime with sugar and bottle or keg when complete.

pleasant hop bite balances and completes the satisfaction. 7.3 percent abv (alcohol by volume). Made with six malts, rye, oats and roast barley.

Korova Cream Stout: Korova is a reference from the movie "Clockwork Orange" suggesting polar opposites. With added lactose sugar, Korova's full body has a definitive stout impact, yet its overall mild aftertaste dwindles rapidly. Excellent at 4.7 percent abv. Interesting compared with my next Belgian Dip Chocolate Stout.

Belgian Dip Chocolate Stout: Eight malts (including chocolate rye malt), lactose and several 10-pound bars of Belgian milk and dark chocolate get crammed into this luscious treat. The Hallertauer hop addition has a low but balanced profile. A chocolate experience; sweet. 6.9 percent abv. Remarkably, this beer is very similar to the 4.7-percent Korova Cream Stout. Side by side, they were hard to tell apart, but if you paid attention you could taste the slightly increased complexity that the higher alcohol Belgian Dip offers.

Nihilist Russian Imperial Stout: Twelve varieties of barley, malts, oats, wheat and rye conspire in this "nihilist" version of imperial stout. Justifiably served in a goblet, this brew looks mean. "Pow, Batman," sums it up. 8 percent abv. Smoother but meaner looking than the Usurper Russian Imperial Stout.

Usurper Russian Imperial Stout: Friendly looking, but, well, slap my face, why don't you? Aggressive dose of hop bitterness. Gentle in appearance but mean to the bone. A stout for those bad days when you want to abuse yourself. 9.5 percent abv.

Stoked Oak Bourbon Stout: Dry, with evident hop bitterness. Minimal oak character, yet subtle bourbon flavors emerge. Whoops. Today's batch was not right. A bit too much diacetyl (butter/butterscotch character from a "whoops" in the fermentation process). The brewer asked, so I confessed my perception. He agreed and got it right the next time around with a "thank you."

Trickster Stout: This indeed is a stout for IPA lovers. A wonderful hop aroma and flavor emerge up front. Is it stout or is it IPA? Dry and crisp bitterness. Citrus and Simcoe hops swirl and then you note the foundation of roast malts and barley. This is a stout for hophead occasions. 6.7 percent abv.

Hazelnut Latte: If I were to close my eyes, I would have guessed I had just settled in at my favorite coffee house. True to its namesake, this is an over-the-top, (caramel malt) sweet, full-bodied, hazelnut vanilla cyclonated coffee infused stout. If you enjoy Hazelnut Latte, you will most definitely like this. 6.4 percent abv. P.S. They also list rose petals as one of the ingredients.

Yonder Mountain Stout: Straight-away-down-the-middle-dry and hop bittered stout. No frills. Just a high velocity stout at 7.4 percent abv.

Boggs' Coconut Cream Stout: A winner of the Mountain Sun annual homebrew stout competition, scaled up and brewed here. Light overall smooth roast

and caramel malt character balancing very well with the smooth, non-assertive natural coconut character. Extraordinary head character. Aroma sends you to dreamland. Could use a tad more hop bite for my personal preference. 5.25 percent abv.

Old School Stout: Available year around, but hard to find during stout month. The quintessential example of what bottle conditioned Guinness Stout used to taste like back in the 1980s. A superb blended balance of East Kent Golding hops, roast malt and barley with just the right amount of body contributed by flaked barley. My go-to stout. What I try to brew when I homebrew classic Irish session stouts. 5.6 percent abv.

Tangerine Cream Stout: Yep, the addition of tangerine zest comes through clearly. Combined with the rich texture of the cream stout, the tangerine and chocolate character of malt is actually quite delightful. Not overdone, but obvious. 4.7 percent abv.

Cherry Dip Stout: I missed this one. Sweet cherry puree infused into a batch of Belgian Dip Chocolate Stout. Oh well, there's next year to look forward to.

My favorites? Old School is perennially on my list, but because it was stout month I'll highlight two featured specialties. Thunderhead and Boggs' Coconut Cream were my top choices, with hoppy Trickster coming in a close third.

My drinking chum Joe smiled after the first session. "The economy sucks. So what? This is America."

Meanwhile, back in the homebrew recesses of my mind, the wheels turned and the homebrew recipe formulation churned. Old Ale is an underrepresented beer style. Why not consider this style as a theme for further digression? Michael Jackson loved digressions.

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

Charlie Papazian is founder of the American Homebrewers Association.

The advertisement features a large, circular metal brewing kettle filled with a golden-brown liquid. The kettle is positioned in the center of the frame, with steam rising from its surface. Above the kettle, five white icons representing different types of glasses (pitcher, wine glass, mug, flute, and snifter) are arranged horizontally. Below the kettle, the text "THE BEVERAGE PEOPLE" is written in a bold, sans-serif font. To the left of the kettle, there is a circular inset containing text about specialty malts, hops, yeast, and balanced beer. At the bottom of the advertisement, the website "www.thebeveragepeople.com" and the address "Visit us at: 840 Piner Rd. #14 Santa Rosa (800)544-1867" are provided.

The advertisement features a large, clear plastic jug of malt extract in the foreground, set against a warm orange and yellow gradient background. To the left of the jug, the Northwestern logo is displayed, consisting of a stylized orange 'N' shape with the words "NORTHWESTERN" curved around it. Below the logo, the text "Premium Food & Beverage Ingredients" is written in a smaller, italicized font. To the right of the jug, the text "Want to brew the best? Start with the best!" is written in a bold, black, sans-serif font. Below this, a large, bold headline reads: "If you're not using NORTHWESTERN malt extract, you might as well go buy a 40!". At the bottom of the advertisement, the address "3590 N. 126th St., Brookfield, WI 53005" and contact information "www.nwextract.com - Email: flavors@nwextract.com - Phone: 1-800-466-3034" are provided.

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The label for Odell Brewing Co.'s St. Lupulin Extra Pale Ale features a central illustration of a figure standing on a hill under a sunburst, framed by grapevines. Below the illustration, the word "ST. LUPULIN" is written in large, stylized letters, with "EXTRA PALE ALE" underneath. At the bottom, it says "ODELL BREWING CO.". To the right, there's a circular logo for "ODELL BREWING CO." with "SEASONAL ALE" in the center, and "FORT COLLINS, COLORADO" around the bottom. Below the main label, text reads "Available June - Sept. 6.5% Alc by Vol.".

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By Amahl Turczyn Scheppach

2009 Slurp & Burp Open

The 2009 Slurp & Burp Open, sponsored by the Strange Brew Homebrew Club, was judged March 7 at the Fearless Brewing Company in Estacada, Ore. Slurp & Burp competition organizer Steve Mueller gave us the scoop on the event's history and why it's one of the most popular homebrew competitions in the Northwest.

Zymurgy: The Strange Brew homebrew club in Oregon's Willamette Valley started in 1994 with only four members...who were the original four, and how did such a small club come to host the Northwest's largest homebrew competition?

Steve Mueller: You want first four? How about the first four I recall? That was 15 years and a lot of pints ago. Cliff Rice, me, Ted Hausotter, and Pat Heveron. Cliff had the only homebrew shop in the area, and he would give brewing lessons on weekends. The club consisted of customers and their drinking buddies. Ted decided to turn it from a party club to one of brewing education. We restricted guys from bringing any beer in a can. The party mode guys left and what grew from there was a small group of guys that wanted to brew great beer. A good number of us are BJCP or working on it.

You were asking how such a small club ended up with the largest competition. We make it fun and it just happened. Ask anyone who has been there what they remember about Slurp & Burp: the raffle! We have by far the best raffle. It's a lot of work and many man hours putting it together.

Zymurgy: Does the name of the club pay homage to the famous McKenzie Brothers movie, or is it more of an indication of the club's creativity in brewing?



p-Lambic 2006

Brewed 10/9/06 by Nathan Zorich, B.O.G. (Brewers of the Gorge, WA/OR)

Best of Show Winner, Slurp & Burp 2009

Bottled & Blended: 9/27/08

Ingredients for 10 gallons (37.9 L)

13.5 lb	(6.12 kg) Weyermann Pilsner malt
7.0 lb	(3.18 kg) organic soft white wheat
4.0 oz	(113 g) 8 year old Northern Brewer pellet hops (90 min)
4.0 oz	(113 g) 5 year old domestic Ultra hops (90 min) 1 week primary with Wyeast 1272 American Ale II

Directions

Follow Wyeast lambic mash schedule on p. 142 of *Wild Brews* by Jeff Sparrow. Boil three hours and 15 minutes. Ferment as above, rack 5 gallons (18.9 L) to a 7 gallon (26.5 L) American oak cask (medium toast), and the other 5 gallons to a stainless corny keg. Pitch Wyeast lambic blend and dregs from several commercial lambics. Age these two 5 gallon (18.9 L) batches for one year at 50-70° F (10-21° C). After aging, brew another 5 gallon (18.9 L) recipe as above, but pitch with 100 percent *B. bruxellensis*, and condition in glass until fully attenuated, then blend aged and new batches with equal parts of each. Bottle condition until carbonated.



KUDOS—BEST OF SHOW

AHA/BJCP Sanctioned Competition Program

February 2009

14th Boston Homebrew Competition,
274 entries—Paul Zocco, Hartford, CT.

March 2009

EHG's "Dark(er)" Color Beers Competition,
20 entries—Ian, Edmonton, AB.

Amber Waves of Grain, 428 entries—
Todd Dirrigl, Buffalo, NY.

WAHA Bert Grant Competition, 15 entries—
Mike & Steve Brown, Lynnwood, WA.

20th Annual Reggale and Dredhop, 324
entries—Greg Geiger, Littleton, CO.

Slurp & Burp Open, 277 entries—Nathan Zorich,
White Salmon, WA.

SPARGE Homebrew Competition, 55 entries—
Alastair Hewitt, Wakefield, MA.

Kona Brewers Festival Homebrew Competition,
245 entries—Tom Smith, Williamstown, MA.

IBU Open, 153 entries—Chuck Scott,
Des Moines, IA.

UKG Drunk Monk Challenge 2009,
417 entries—Ed Seaman, Streamwood, IL.

Shamrock Open, 443 entries—Mitch Hayes,
Holly Springs, NC.

Tanunda Show Home Brew Competition,
113 entries—Brenton Rehn, Angaston,
South Australia.

McChord Club Brewfest '09, 9 entries—
Mark Emiley, Federal Way, WA.

Celebrevention 2009, 60 entries—
Chadd McNicholas, Carmichael, CA.

9th Annual March Mashness, 155 entries—
Joe Brockman, Blaine, MN.

Hudson Valley Homebrewers 19th Annual
Homebrew Competition, 214 entries—
Bruce Franconi, Red Hook, NY.

Las Vegas Winterfest 2009, 80 entries—
Rob Fullmer, Phoenix, AZ.

The Bluebonnet Brew-off, 1,302 entries—
Darryl Kochaniec, Goldenrod, FL.

March Madness, 24 entries—Brian Thatcher,
Kingston, WA.

BOSS Chicago Cup Challenge, 207 entries—
Harry Bielawski, St. John, IN.

The Highland Cup, 82 entries—Alex Buerckholtz,
Asheville, NC.

UNYHA XXXI/Empire State Open 20th,
265 entries—Michael Reda, North Babylon, NY.

March in Montreal, 100 entries—David & Derek
Angove, Bolton, ON.

13th Annual Chico Homebrew Club
Competition, 106 entries—John Abbott, Chico, CA.

April 2009

Belgian Beerfest 2009, 53 entries—

Michael Guenzel, Melbourne, Australia.

Cascade Brewers Cup, 193 entries—

Will Fredin and Matt Moser, Granite Falls, WA.

World Cup of Beer, 439 entries—

Michael Frenn, Placerville, CA.

AHA Club-Only Competition, Beers with O.G.
> 1.080, 60 entries—Paul Shick, Cleveland
Heights, OH.

2009 ALES Homebrew Open/AHA Qualifier
Competition, 261 entries—Eric Eccelstone,
Toronto, ON.

Black & Tan, 40 entries—Jared Kueker, E Peoria, IL.
Wort Hog Brewers Summer Beer Festival 2009,
34 entries—University of Pretoria Microbrewery,
Pretoria, South Africa.

2009 South Shore Brewoff, 158 entries—
Jason and Seth Croteau, Canterbury, CT.

COHO Spring Fling 2009, 137 entries—
Ted Hausotter, Baker City, OR.

The Oregon Garden's Homebrewers Classic,
154 entries—Dick Blankenship, Salem, OR.

Mead Free or Die, 168 entries—
Linda Trombley, North Berwick, ME.

May 2009

State of Franklin Homebrewers

Members-only Competition, 48 entries—

Steven Parfitt, Johnson City, TN.

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SM: We were sitting on the back of Cliff Rice's pick-up tailgate drinking beer, thinking of a cool name, and the song "Strange Brew" from Cream came on and Cliff said "That's it!"

Zymurgy: How did the Slurp & Burp get started, and how has it progressed over the years?

SM: It was really Cliff and Ted that pushed forward for the first Slurp & Burp. They were the competition coordinators, and I did the judge coordination. The first Slurp & Burp had about 225 entries. One of the reasons we have Slurp & Burp when we do is to give brewers a chance to get their



AHA/BJCP SANCTIONED COMPETITION PROGRAM CALENDAR

Want to discuss judging, beer styles, competitions and exams? Join the BJCP Members Forum at www.bjcp.org/phpBB2/index.php. To register a new competition, please go to www.bjcp.org/apps/comp_reg/comp_reg.html. Check the AHA or BJCP Web sites to see the latest calendar of events. Competition organizers: please remember to submit your results promptly using our electronic system. Competitions not filing organizer reports will not be allowed to register in the future.

Interested in becoming a beer judge? See www.beertown.org/homebrewing/scp/judge.html for information.



July 5

2009 WanCup2

Hamamatsu, Shizuoka, Japan. Contact: Tadashi Tsuda, wancup2009@homebrew.gr.jp www.WanCup2.org

July 10

Indiana State Fair Brewers' Cup

Indianapolis, IN. Contact: Penn Jensen, 650-400-9812, penn@distilling.com www.brewerscup.org

July 11

All Idaho HausBrau Battle

Boise, ID. Contact: Ander Sundell, 208-440-4809, anderj@boisecoop.com www.boisecoop.com

July 11

Ohio Brew Week Homebrew Competition

Athens, OH. Contact: Jason Klein, 765-404-7446, kleinjc40@hotmail.com www.ohiobrewweek.com/homebrew.html

July 11

E.T. Barnette Homebrew Competition

Fox, AK. Contact: Scott Stihler, 907-474-2138, stihlerunits@mosquitobytes.com www.mosquitobytes.com/Den/Beer/Events/Events.html

July 11

Amador County Fair Homebrew Competition

Plymouth, CA. Contact: William Tarchala, 209-476-8491, wtarchala@mulfil.com www.brewangels.com

July 11

Pisgah Organic Pro-Am

Black Mountain, NC. Contact: John Silver, 828-467-1856, john@pisgahbrewing.com

July 18

Ohio State Fair Homebrew Competition

Columbus, OH. Contact: Brett Chance, 614-644-4126, b.chance@expo.state.oh.us www.ohiostatefair.com

July 18

2nd Annual All-American Competition

Appleton, WI. Contact: Dan Grady, 920-205-0157, dangrady@gmail.com www.aleclubcompetitions.com

July 18

TRASH XIX

Pittsburgh, PA. Contact: Peter Kozlowski, 412-952-9474, peter.kozlowski@fastmail.fm www.trashhomebrewers.org/TRASHXIX

July 25

Spirits of Baker County

Baker City, OR. Contact: Colleen Taylor, 541-523-7881, bakerfair@bakercounty.org www.bakercounty.org/fair

July 26

22nd Annual Southern California Regional Homebrew Championship

Corona, CA. Contact: Jim Delperdang, 951-789-4184, jimdelperdang@earthlink.net www.hopheads.com

August 1

Larimer County Fair Gnarly Barley Homebrew Competition

Fort Collins, CO. Contact: Pamela McAlpin, 970-224-2767, just.pamela@gmail.com

August 8

Mountain Brewer Open 12th

Huntington, WV. Contact: David Zalewski, 740-886-8828, zalew@msn.com www.wvhomebrew.com

August 8

14th Annual Montgomery County Agricultural Fair Homebrew Competition

Gaithersburg, MD. Contact: William Ridgely, 301-762-6523, aaronridge@comcast.net http://http://g_a_b_s.tripod.com/mcfcomp.html

August 8

Lunar Rendezbrew XVI

Seabrook, TX. Contact: Hugh Lomas, 281-488-4512, hwlomas@sbcglobal.net www.mashtonauts.com/mashtonauts/mashtonauts.html

August 8

Evergreen State Fair 2009

Monroe, WA. Contact: Eric J. Wilson, 425-303-0585, ejwilson@gte.net www.evergreenfair.org

August 15

Blues 'N' Brews Homebrew Competition

Hubbardston, MA. Contact: Thia St. Martin, 978-582-4740, tbaboval@yahoo.com www.foambrew.com/BandBfest09.html

August 15

Beer and Sweat

Ft. Mitchell, KY. Contact: Ray Snyder, 513-759-2573, raysnyder@fuse.net www.bloatarian.org

August 15

Washington Mead & Cider Cup

Kent, WA. Contact: Tim Hayner, 206-730-4532, tim@bigalbrewing.com www.impalingalers.org

August 16

Kentucky State Fair Homebrew

Louisville, KY. Contact: Chuck Harp, 502-254-3734, chuckharp@bellsouth.net www.kystatefair.org/competitions/entry_info

August 22

Minnesota State Fair Homebrewed Beer, Mead & Cider Competition 2009

Saint Paul, MN. Contact: Sarah Stremcha, 651-261-8839, ssstremcha@gmail.com www.mnbrewers.com/events/mnfair

August 23

AHA Club-Only Competition, Amber Hybrid Beer

Denver, CO. Contact: Ryan Thomas, 720-339-1524, Ryan.Thomas@mindbox.com www.beertown.org/homebrewing/club_only

August 28

Colorado State Fair Homebrew Competition

Pueblo, CO. Contact: Kristin Taylor, Deborah Wallace, 719-404-2080, kristintaylor@msn.com www.coloradostatefair.com

August 29

16th Annual Dominion Cup

Richmond, VA. Contact: John Van Itallie, 804-241-7788, competitioncoordinator@jrhb.org www.jrhb.org/dominioncup

August 29

Brew Masters Competition

Florence, WI. Contact: Edward Mathis, 715-324-5977, felix14lonestar@yahoo.com www.tricountyfermenters.com

August 30

Western Washington Fair Amateur Beer Competition

Puyallup, WA. Contact: Grace Nilsson, 253-845-9791, pat@thefair.com

beers judged before the AHA regionals.

For the first several years we had a hard time finding a place that was flexible and good to us. About six years ago we hit pay dirt. Ken Johnson, a great homebrewer of Scotch ales, spoke up during the closing of Slurp & Burp and said: "I should have

my brewery open by next year—I would love to host the next Slurp & Burp." And so Slurp & Burp found a home at Fearless Brewing in Estacada, Ore. Ken and his wife Bennett have been wonderful to us. They have good food, and great staff.

Zymurgy: From the competition winners'

list, it looks like Strange Brew took the lion's share of the awards in 2009, but there are several other local brew clubs represented as well. Which clubs are your biggest rivals from year to year?

SM: We have been really blessed by the support from the other clubs in the area.



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Sleeping Lady Brewing Co./
Snow Goose Restaurant
Anchorage

ARIZONA

Barley Brothers Brewery
Lake Havasu City

BJ's Restaurant & Brewery
Chandler

BJ's Restaurant & Brewhouse
Mesa, Peoria, Phoenix, Tucson

Gordon Biersch Brewery
Restaurant
Gilbert, Glendale, Phoenix, Tempe

Mudshark Brewing Co.
Lake Havasu City

Old Chicago
Chandler, Tucson

Rock Bottom Restaurant &
Brewery
Glendale, Phoenix (2), Scottsdale

ARKANSAS

Boscos Little Rock Brewing Co.
Little Rock

Vinos Pizza Pub Brewery
Little Rock

CALIFORNIA

21st Amendment Brewery Café
San Francisco

American River Sports Bar &
Grille
Folsom

Anderson Valley Brewing Co.
Boonville

Barley & Hops Old World Family
Tavern
Temecula

BJ's Pizza & Grill
Huntington Beach, La Jolla, Laguna
Beach, Long Beach, Newport
Beach, Westwood

BJ's Restaurant & Brewery
Brea, Laguna Hills, Oxnard,
Rossmoor, West Covina, Woodland
Hills

BJ's Restaurant & Brewhouse
Arcadia, Bakersfield, Burbank,
Cerritos, Chino Hills, Chula Vista,
Corona, Cupertino, Del Amo, Elk
Grove, Folsom, Fresno, Glendale
Huntington Beach, Irvine, La Mesa,
Modesto, Montebello, Moreno
Valley, Newark, Palmdale, Rancho
Cucamonga, Sacramento, San
Bernardino, San Bruno, San Jose,
San Mateo, Stockton, Temecula,
Vacaville, Valencia, Westlake Village

Bootleggers Brewery
Fullerton

Creekside Brewing Co.
San Luis Obispo

E.J. Phair Brewing Co. &
Alehouse
Concord

FiftyFifty Brewing Co.
Truckee

Firestone Walker Brewing Co.
Paso Robles

Firestone Walker Taproom
Restaraunt
Buellton

Gordon Biersch Brewery
Restaurant
Burbank, Palo Alto, Pasadena, San
Diego, San Francisco, San Jose

Hollister Brewing Co.
Goleta

Huntington Beach Beer Co.
Huntington Beach

Iron Springs Pub & Brewery
Fairfax

O'Brien's Pub
San Diego

Pyramid Alehouse, Brewery
& Restaurant
Berkeley

Rock Bottom Restaurant &
Brewery
Campbell, La Jolla, Long Beach,
San Diego

Rogue Ales Public House
San Franciso

Russian River Brewing Co.
Santa Rosa

Santa Barbara Brewing Co.
Santa Barbara

Schooners Grille and Brewery
Antioch

Stone Brewing Co./Stone
Brewing World Bistro & Gardens
Escondido

COLORADO

Avery Brewing Co.
Boulder

Backcountry Brewery
Frisco

BJ's Restaraunt & Brewery
Boulder

BJ's Restaraunt & Brewhouse
Aurora, Westminster

Breckenridge Brewery
Denver

Breckenridge Brewery & Pub
Denver

Boulder Beer Co.
Boulder

C.B. and Potts
Broomfield, Englewood,
Fort Collins, Highlands Ranch,
Westminster

Dillon Dam Brewery
Dillon

Dry Dock Brewing Co.
Aurora

Glenwood Canyon Brewing Co.
Glenwood Springs

Gordon Biersch Brewery
Restaurant
Broomfield

Great Divide Brewing Co.
Denver

Great Northern
Denver

Hops Grillhouse and Brewery
Golden, Littleton, Northglenn

Left Hand Brewing Co.
Longmont

New Belgium Brewing Co.
Fort Collins

Odell Brewing Co.
Fort Collins

Old Chicago
Aurora (2), Boulder, Broomfield,
Colorado Springs (4), Denver (3),
Fort Collins (2), Grand Junction,
Greeley, Lakewood, Littleton,
Longmont, Silverthorne, Superior,
Thornton, Westminster, Wheatridge

Oskar Blues Grill & Brewery
Lyons

Pagosa Brewing Co.
Pagosa Springs

Palisade Brewery
Palisade

Phantom Canyon Brewing Co.
Colorado Springs

Pumphouse Brewery &
Restaurant
Longmont

Rock Bottom Restaurant &
Brewery

Rockyard Brewing Co.
Castle Rock

Rosie's Brewpub
Leadville

San Luis Valley Brewing Co.
Alamosa

Ska Brewing
Durango

Smugglers Brewpub & Grille
Montrose, Telluride

Tommyknocker Brewery & Pub
Idaho Springs

Walnut Brewery
Boulder

Wynkoop Brewing Co.
Denver

CONNECTICUT
Cambridge House Brew Pub
Granby

Hops Grillhouse and Brewery
Newington

Willimantic Brewing Co./
Main Street Café
Willimantic

DELAWARE

Dogfish Head Brewings & Eats
Rehoboth Beach

Dogfish Head Craft Brewery
Milton

Iron Hill Brewery and Restaurant
Newark, Wilmington

Stewarts Brewing Co.
Bear

FLORIDA

A1A Ale Works
St. Augustine

Big River Grille & Brewing
Works
Lake Buena Vista

BJs Restaurant & Brewhouse
Citrus Park, Kissimmee, Pinellas
Park, Orlando

Gordon Biersch Brewery
Restaurant
Miami

Hops Grillhouse and Brewery
Boynton Beach, Bradenton, Fort
Myers, Gainesville, Miami, Ocala,
Palm Harbor, Pembroke Pines,
Pompano Beach, Sanford

Old Chicago

Brandon

Orlando Brewing Partners, Inc.
Orlando

Ragtime Tavern Seafood & Grill
Atlantic Beach

Seven Bridges Grille & Brewery
Jacksonville

GEORGIA

Gordon Biersch Brewery
Restaurant
Atlanta

Moon River Brewing Co.
Savannah

Rock Bottom Restaurant &
Brewery
Atlanta

Twain's Billards and Tap
Decatur

HAWAII

BJ's Restaurant & Brewhouse
Lahaina

Gordon Biersch Brewery
Restaurant
Honolulu

Kona Brewing Co.
Kailua-Kona

Maui Brewing Co.
Lahaina-Maui

IDAHO

Old Chicago
Boise (2)

Treasure Valley Pizza Factory
Nampa

ILLINOIS

Brass Restaurant & Brewery
South Barrington

Flossmoor Station Brewing Co.
Flossmoor

Goose Island Beer Co.
Chicago (2)

Gordon Biersch Brewery
Restaurant
Bolingbrook

Granite City Food and Brewery
Cherry Valley, East Peoria, Orland
Park

Mickey Finns Brewery
Libertyville

Old Chicago
Elk Grove, Peoria (2), Rockford

Rock Bottom Restaurant &
Brewery
Chicago, Lombard, Orland Park,
Warrenville

INDIANA

Barley Island Brewing Co.
Noblesville

BJs Restaurant & Brewhouse
Greenwood

Granite City Food & Brewery
Fort Wayne, Mishawaka

J. Gumbo's Ale House and Grill
Indianapolis

Power House Brewing Co.'s
Columbus Bar
Columbus

Rock Bottom Restaurant &
Brewery
Indianapolis (2)

Upland Brewing Co.
Bloomington

IOWA

Court Avenue Brewing Co.
Des Moines

Granite City Food and Brewery
Cedar Rapids, Clive, Davenport

Millstream Brewing Co.
Amana

Old Chicago
Bettendorf, Coralville

Raccoon River Brewing Co.
Des Moines

Rock Bottom Restaurant &
Brewery
West Des Moines

Sherwood Brewing Co.
Shelby Twp

KANSAS

Goebel Liquor (Rob's Other
World)
Wichita

Granite City Food and Brewery
Kansas City, Olathe, Wichita (East),
Wichita (West)

Old Chicago
Lawrence, Lenexa, Manhattan,
Olathe, Overland Park, Topeka,
Wichita (3)

KENTUCKY BJ's Restaurant & Brewhouse Oxmooor	Thunderhead Brewing Co. Kearney	North Ridgeville The Brew Kettle, Taproom & Smokehouse Strongsville	Rogue Distillery and Public House Portland	Squatters Pub Brewery Salt Lake City, Salt Lake Airport
LOUISIANA BJ's Restaurant & Brewhouse Baton Rouge	Upstream Brewing Co. Omaha (2)	Gordon Biersch Brewery Restaurant Columbus	Uinta Brewing Co. Tannersville	Uinta Brewing Co. Salt Lake City
Gordon Biersch Brewery Restaurant New Orleans	NEVADA BJ's Restaurant & Brewhouse Reno	Ohio Brewing Co. Akron	PENNSYLVANIA The Brewerie at Union Station Erie	VERMONT Rock Art Brewery Morrisville
MAINE Sebago Brewing Co. Gorham, Portland, South Portland	Bj's Restaurant & Brewhouse Summerlin	Rock Bottom Restaurant & Brewery Cincinnati, Cleveland	Iron Hill Brewery & Restaurant Lancaster, Media, North Wales, Phoenixville, West Chester	VIRGINIA Gordon Biersch Brewery Restaurant McLean, Virginia Beach
MARYLAND Dogfish Head Alehouse Gaithersburg	Chicago Brewing Co. Las Vegas	Weasel Boy Brewing Co. Zanesville	Rock Bottom Restaurant & Brewery King of Prussia, Pittsburgh	Hops Grillhouse & Brewery Alexandria, Richmond
Flying Dog Brewery/Wild Goose Brewery Frederick	Gordon Biersch Brewery Restaurant Las Vegas (2)	Willoughby Brewing Co. Willoughby	Triumph Brewing Co. New Hope	Rock Bottom Restaurant & Brewery Arlington
Gordon Biersch Brewery Restaurant Annapolis, Rockville	NEW HAMPSHIRE The Portsmouth Brewery Portsmouth	OKLAHOMA BJ's Restaurant & Brewhouse Norman, Oklahoma City	SOUTH CAROLINA Gordon Biersch Brewery Restaurant Myrtle Beach	WASHINGTON Washington State alcohol regulations currently prohibit the Brewers Association from promoting Washington businesses that participate in the Pub Discount Program and in most cases prohibit Washington breweries from participating in the program.
Hops Grillhouse and Brewery Owings Mills	Ale Street News Maywood	Old Chicago Edmond, Midwest City, Oklahoma City	SOUTH DAKOTA Granite City Food and Brewery Sioux Falls	WASHINGTON, D.C. Gordon Biersch Brewery Restaurant Washington, D.C.
Red Brick Station Baltimore	Triumph Brewing Co. Princeton	OREGON BJ's Pizza & Grill Eugene	TENNESSEE Big River Grille & Brewing Works Chattanooga (2), Nashville	WISCONSIN Granite City Food and Brewery Madison
Rock Bottom Restaurant & Brewery Bethesda	Blue Corn Café & Brewery Santa Fe	BJ's Restaurant & Brewhouse Portland	Bluewater Grille Chattanooga	Milwaukee Ale House Milwaukee
MASSACHUSETTS Boston Beer Co. Boston	Chama River Brewing Co. Albuquerque	Deschutes Brewery & Public House Bend, Portland	Boscos Brewing Co. Memphis, Nashville	Northwoods Brewpub & Grille Chetek, Eau Claire
Cambridge Brewing Co. Cambridge	Il Vicino Brewing Co. Albuquerque	Eugene City Brewery Eugene	TEXAS Old Chicago Addison, Clear Lake, El Paso, Lewisville, McAllen, Pearland, Plano, San Antonio, South Arlington, Sugar Land, Sunset Valley, Temple, Willowbrook	Old Chicago Green Bay, Madison
Rock Bottom Restaurant & Brewery Boston, Braintree	O'Neill's Good Food Honest Drink Albuquerque	House of Spirits (Rogue Ales) Newport	Blue Star Brewing Co. San Antonio	Rock Bottom Restaurant & Brewery Milwaukee
MICHIGAN Arbor Brewing Co. Ann Arbor	CH Evans Brewing Co. at the Albany Pump Station Albany	Laurelwood Public House & Brewery Portland	Gordon Biersch Brewery Restaurant Plano	Stone Cellar Brewpub Appleton
Big Buck Brewery & Steak House Auburn Hills, Gaylord	Crooked Rooster Brewpub Watkins Glenn	Old Chicago Beaverton, Gresham, Portland (2)	Uncle Billy's Brew & Que Austin	WYOMING Snake River Brewing Co., Snake River Brewpub Jackson, Lander
Liberty Street Brewing Co. Plymouth	Elliotville Brewing Co. Elliotville	Pelican Pub & Brewery Pacific City	Bohemian Brewery & Grill Salt Lake City	CANADA Cameron's Brewing Co. Oakville, ON
Saugatuck Brewing Co. Saugatuck	Great Adirondack Brewing Co. Lake Placid	Rock Bottom Restaurant & Brewery Portland	Rogue Ales Public House Newport	
MINNESOTA Granite City Food and Brewery Eagan, Maple Grove, Roseville, St. Cloud, St. Louis Park	Hop Devil Grill New York, New York	Rogue Ales Brewery & Headquarters Newport	Moab Brewery Moab	
Old Chicago Apple Valley, Blaine, Duluth, Eagan, Eden Prairie, Minneapolis (2), Minnetonka, Plymouth, Roseville	Lake Placid Craft Brewing Co. Plattsburgh	Lake Placid Pub & Brewery Lake Placid		
Rock Bottom Restaurant & Brewery Minneapolis	Matt Brewing Co. Utica	Matt Brewing Co. Utica		
MISSOURI 75th Street Brewery Kansas City	Rohrbach Brewing Co. Rochester	Rohrbach Brewing Co. Watkins Glenn		
Gordon Biersch Brewery Restaurant Kansas City	Roosterfish Brewing Co. Watkins Glenn	Southampton Publick House Southampton		
Granite City Food and Brewery Creve Coeur, Kansas City (Zona Rosa)	Wildflower Café Watkins Glenn	Wildflower Café Watkins Glenn		
MONTANA Bitter Root Brewing Co. Hamilton	NORTH CAROLINA Barleys Taproom Asheville	NORTH DAKOTA Barleys Taproom Asheville		
Madison River Brewing Co. Belgrade	Hops Grillhouse & Brewery Matthews	Rock Bottom Restaurant & Brewery Charlotte	SURLY BREWING CO. Surly Brewing Co. Brooklyn Center, MN ~ 10.10.2009	Natty Greene's Brewing Co. Greensboro, NC ~ Date TBD
Old Chicago Billings, Bozeman	Rock Bottom Restaurant & Brewery Charlotte	Sly Fox Breweing Co. Royersford, PA ~ 8.10.2009	LEFT HAND BREWING CO. Left Hand Brewing Co. Longmont, CO ~ 10.24.2009	MATT BREWING CO. Matt Brewing Co. Utica, NY ~ Date TBD
NEBRASKA Gottberg Brew Pub Columbus	OHIO Granite City Food and Brewery Fargo	SKA BREWING CO. Ska Brewing Co. Durango, CO ~ 7.31.2009		
Granite City Food and Brewery Lincoln, Omaha	BJ's Restaurant & Brewhouse Cincinnati, Columbus			
Old Chicago Kearney, Lincoln (2), Omaha (4)	The Brew Keeper			
Nebraska Brewing Co. Papillion				

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They supply great judges and make a good showing with entries every year. In no order they are: Heart of the Valley in Corvallis; Capitol Brewers in Salem; Good Libations in Baker City; PDX Brewers and Oregon Brew Crew in Portland; Brewers of the Gorge in Columbia River, Wash./Ore., Central Oregon Homebrewers Organization in Bend; Snake River Brewers in Nampa, Idaho; Impaling Alers in Kingston, Wash., and various others.

Zymurgy: What sort of sponsorship does the competition count on, and what are some of the prizes offered for winners?

SM: We have a lot of sponsorship, too many to list. Readers can go to www.strangebrew.org and take a look. They feed the massive raffle we do during the Best of Show judging. We rely on the raffle to fund the next year's Slurp & Burp. The winners enjoy a nice medal and not a simple "county fair ribbon." The first place winners also receive new glassware. Best of Show gets new brew wear, custom designed by Jodie Hausotter, and every year she gets more creative.

Zymurgy: The Best of Show winner was a sour beer at this year's competition...do



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AHA SPECIAL EVENTS

See www.AHArally.org for the current AHA Rally Calendar

July 31

AHA Rally, SKA Brewing Company, Durango, CO. Contact: Kathryn Porter, Kathryn@BrewersAssociation.org, www.AHArally.org

August 1

AHA Mead Day, Worldwide Event. Contact: Janis Gross, Janis@BrewersAssociation.org, www.beertown.org/events/meadday/index.html

August 10

AHA Rally, Sly Fox Brewing Co., Royersford, PA. Contact: Robin Panzer, Robin@BrewersAssociation.org, www.AHArally.org

September 24-26

Great American Beer Festival, Denver, CO. Contact: Bradley Latham, Bradley@BrewersAssociation.org, www.beertown.org/events/gabf/index.htm

October 24

AHA Rally, Left Hand Brewing Company Longmont, CO. Contact: Kathryn Porter, Kathryn@BrewersAssociation.org, www.AHArally.org

you typically receive unusual beer styles?

SM: This year's best of show winner was a gueuze brewed by Nathan Zorich of Brewers of the Gorge. We do have some unusual beer entered from time to time. This year we had several specialty beers. One nice one this year was a Jalapeño Helles Bock brewed by Ted Hausotter.

Zymurgy: Who are some of the people vital to the competition's organization and execution each year?

SM: For the most part the whole club is involved. My judge and raffle coordinator, Paul Johnson (P.J.), is my left hand man. Duane Younger helps with coordinating, picking up entries and raffle items two hours south of us. Michael Gruber is the world's best cellar master. The whole team jumps in and gets the job done. And I must mention Jodie Hausotter, our paperwork queen. She was off on a beer tour in Belgium during the competition, so we had to fend for ourselves this year. Also, Strange Brew president John Huck was coordinating the AHA western regionals in Portland at the same time as the Slurp & Burp.

Amahl Turczyn Scheppach is a former craft brewer and associate editor for *Zymurgy*, and now brews at home in Lafayette, Colo.

Reader Advisory: Warning!

These pages are rated XG (eXtra Geeky) by the Bureau of Magazine Mucktymucks. Items in this section may contain raw data, graphic functions, full statistics and undiluted biochemistry. Keep away from poets, squeamish novices and others who may find the joyously technical nature of this prose to be mindbendingly conceptual or socially offensive. Also, because of the complex nature of brewing science, there is no guarantee that you will live longer, brew better or win any awards in the next homebrew competition based upon the conclusions presented here.

Hitting Your Target Gravity

By Steve Holle

Several years ago, I came across a formula in a German brewing text that is a useful tool for brewing high gravity beers because it predicts the gravity of first runnings from the lauter tun. The formula also helps illustrate why efficiency decreases as the gravity of kettle-full wort increases.

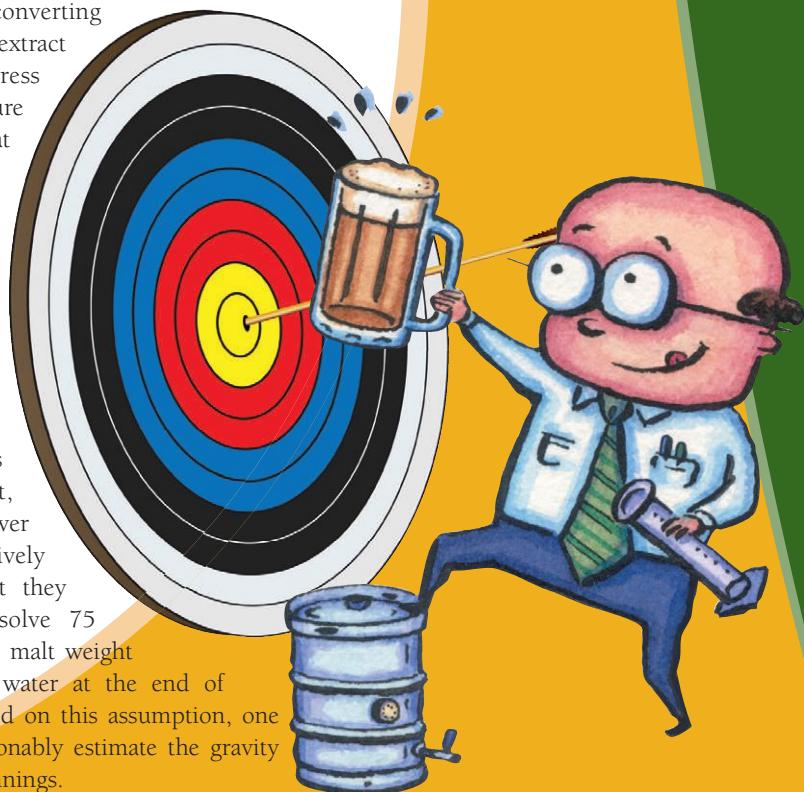
"Efficiency" can simply be defined as the percentage of grain weight that is converted to the weight of soluble extract in the wort. It is dependent on two separate operations: mashing and lautering. Brewers use °Plato as a means to measure the extract in wort. A simple definition of Plato is "weight of extract/weight of wort." So a reading of 12 °Plato would mean 12 grams of extract in 100 grams of wort. In other words, the wort is 12 percent extract by weight.

In mashing, the goal is to convert as much of the grain weight as possible to soluble extract. This process relies on enzymatic activity that is dependent on factors like water temperature and pH. If you have access to a malt analysis, the maltster will have tested the extract potential of the malt in his laboratory. The "% extract – coarse grind (as-is)" shown in a malt analysis is roughly the extract yield that the maltster estimates the brewer should attain in the brewhouse. Often times the maltster will show a slightly different value, "% extract, coarse grind (dry basis)." This means that the malt percent extract is based on malt that has no moisture comprising any of its weight. If the dry basis yield is stated, the brewer can obtain the as-is yield by multiplying the dry basis yield by 1 - % moisture content. If the malt analysis

doesn't provide the moisture content, 5 percent is a good estimate. Therefore, a % extract, coarse grind, dry-basis yield of 80 percent would be 76 percent on an as-is basis if the malt had a 5 percent moisture content. ($80\% \times [1.0 - 0.05] = 76\%$).

The second factor of efficiency is the effectiveness of removing the dissolved extract from the grain bed. This part of the efficiency equation is heavily dependent on the design and efficiency of the lauter tun and the application of sparge water.

The following formula makes a reasonable prediction of the gravity of first runnings because most brewers can be about as effective at converting malt starch to extract as the Congress mash procedure in the lab that provided the coarse grind, dry basis extract yield when adjusted for water content in the malt. If the "as is" malt yield is 75 percent, then the brewer can be relatively confident that they will also dissolve 75 percent of the malt weight in the mash water at the end of mashing. Based on this assumption, one can then reasonably estimate the gravity of the first runnings.



Plato of first runnings =
 "as is" % malt yield /
 ("as is" % malt yield + lbs of water)

or, in other words

= weight of extract/weight of wort

For example, assuming the "as is" malt yield is 75 percent (i.e., 0.75 lb of extract produced from 1 lb of malt) and the water-to-grist ratio is 3 lbs of water per 1 lb of malt, the formula predicts 20° Plato for the first runnings.

$$0.20 \text{ (% Plato)} = \\ 0.75 \text{ lb extract} + \\ (0.75 \text{ lb extract} + 3.00 \text{ lbs water})$$

In a more useful form, this equation allows one to solve for the weight of water to mix with one pound of grain (assuming 75 percent extract efficiency),

$$\text{Pounds of Water} = \\ (0.75 \div \% \text{ Plato}) - 0.75$$

Table 1 applies this equation over a range of water-to-grist ratios assuming an extract efficiency of 75 percent. For example, if a brewer wants to make a beer with kettle full wort of 20° Plato, the brewer could mash in with a water-to-grist ratio of 3:1 and simply drain the lauter tun without sparging. (Obviously, boiling would further concentrate the wort, so if the desired ending gravity was 20° Plato, more mash water could be used to produce a kettle-full wort of lower gravity and higher efficiency.)

The second part of efficiency deals with the brewer's ability to remove the extract in the water that has been absorbed by the grain (usually about 0.115 gallon of water/lb of malt or 0.37 bbl/100 lb of malt). This process is heavily dependent on the amount of sparge water that rinses the grain bed, with increased sparging directly related to increased efficiency. Since sparging must be curtailed when brewing high gravity beers to avoid diluting the wort, brewing efficiency declines as the gravity of the kettle-full wort increases.

See the table below showing the relationship of gravity of first runnings to 1) water-to-grist ratios and 2) overall efficiency. The chart assumes that all the

water is added to the mash and drained, without sparging. Note the direct relationship between the amount of mash water and efficiency. In other words, as the amount of water increases, efficiency increases. But, as efficiency increases, the measured extract concentration ('Plato) decreases. In other words, producing high gravity wort results in decreased extract efficiency.

Table 1 provides the °Plato of first runnings when mashed with 1 lb of malt (extract efficiency of 75 percent) and the following lbs of water (column 2) and the resulting efficiency* (column 4) assuming no sparging.

This formula can be found in the textbook, Die Brauerei, Band II: Die Technologie der Wuerzebereitung (The Brewery, Volume II: The Technology of Wort Production) by Ludwig Narziss.

Steve Holle is the author of *A Handbook of Basic Brewing Calculations*. He is a member of the Brewers Association, Master Brewers Association of the Americas, and Beer Judge Certification Program, and is an associate member of the Institute and Guild of Brewing, London.



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TABLE I.

PLATO	PARTS WATER TO 1 PART MALT, BY WT.	QTS WATER TO 1 LB MALT	EFFICIENCY*
12°	5.50	2.64	62%
13°	5.02	2.41	61%
14°	4.61	2.21	59%
15°	4.25	2.04	58%
16°	3.94	1.89	57%
17°	3.66	1.76	55%
18°	3.42	1.64	54%
19°	3.20	1.54	53%
20°	3.00	1.44	51%
21°	2.82	1.36	50%
22°	2.66	1.28	48%
23°	2.51	1.21	46%
24°	2.38	1.14	45%
25°	2.25	1.08	43°

*efficiency determined by estimated weight of extract retained by water absorbed in grain

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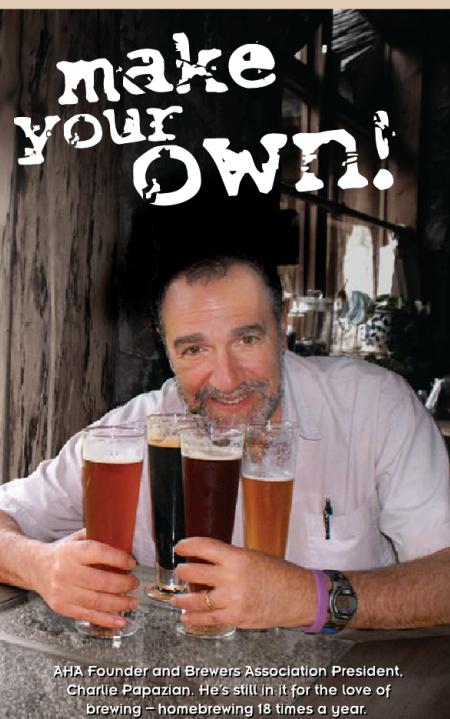
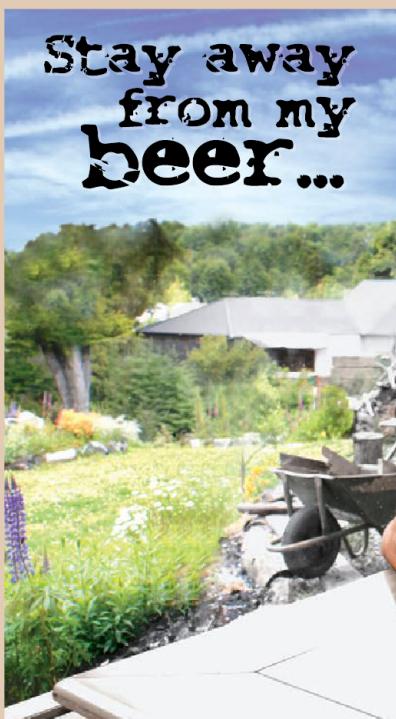
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Pliny Ruined Everything

Someday I'll write an article about my top 10 revelatory beer moments—points in time and taste when I said, "Aha!" For now, let's focus on Pliny the Elder.

I still remember my first time, at Pizza Port's Strong Ale Festival circa 2004. I was probably about eight beers in, walking back to my table with this oddly named beer when I took a sip and stopped dead in my tracks. I looked at the 8-ounce taster glass. Sunlight shone right through the gold liquid and straight into my head. I was holding the beer I'd been searching for my whole life. Damn.

As a homebrewer, my first instinct was to brew it. Luckily my club (the Maltose Falcons) had just won the 2004 California Homebrew Club of the Year and wound up taking a bus trip up to the Bay Area and Russian River Brewing where I interrogated poor Vinnie Cilurzo. How? How much? Why? What I took away was hop extract for bitterness, add lightness (sugar) and body (CaraPils). Must brew it! Well, as anyone who's tried to reproduce the beer that many consider to be the very best Double IPA in the world well knows, it's hard! For one thing, homebrewers don't have access to hop extract. For another, Vinnie's just a plumb better brewer than you. Or me. I made some attempts. One was close—good, even. The rest? Meh. Still, I had to keep trying.

Then Vinnie went ahead and got himself a big ol' production brewery and began sticking Pliny the Elder in bottles. The e-mails began trickling in from various beer stores. "We have one case of Pliny the Elder. As one of our VIP customers you are entitled to one bottle." I'm not even going to mention what I paid, because in this economy, it's scandalous.



Following the Vinnie method of adding lightness with raw, organic Malawian fair trade cane sugar.

Especially considering that within a few weeks, bottled Pliny was no longer in short supply. Even the 7-Eleven down the street carried it. That's right, I live close to the very best 7-Eleven in the entire world, meaning that I can grab six bottles of Pliny the Elder (or Speedway Stout) at 1:58 a.m. on a Tuesday. No, really. Why bother brewing? Hell, why bother drinking other beers?

All joking aside, it's been like that around my house for the past six months. True, I moved to a new space-compromised place and had to store all my brewing gear elsewhere. But it's not as if I don't have dozens of friends that brew. I just didn't

feel the need because of that damn Pliny.

On Valentine's Day, my fiancée and I had a few flights of tasters at a new beer bar, everything from imperial hefes to smoked lagers to two-year-old barleywine. At some point she said, "I think I'm going to stop drinking Pliny for a while—just to give some other beers a chance." My condolences to Russian River Brewing and the 7-Eleven corporation, but I'm taking my lady's advice. Consider the kettles fired.

Jonny Lieberman has been brewing beer at home since 1993. You can follow his exploits at his blog, labrewer.blogspot.com.



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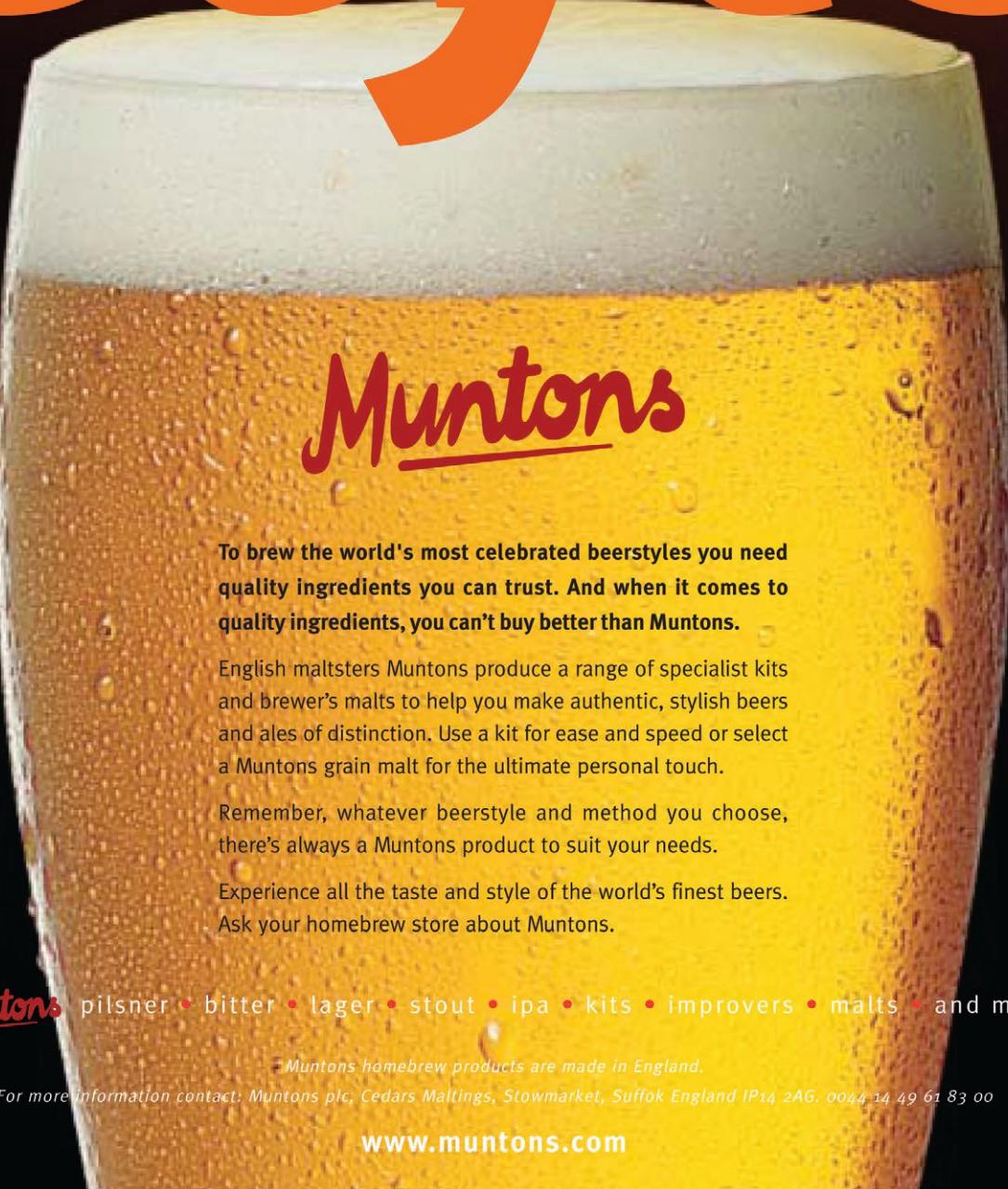
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