

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





Brewmaster Vinnie and his wife, Natalie, at their brewery.

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

Five Star's Saniclean
USE ACID-ANIONIC FINAL RINSE WITH LOW-FOAMING SANICLEAN AND YOU'RE READY TO BREW AND BOTTLE!

Now, find Five Star excellence on display at your local homebrew store.

- Saniclean
- Star San
- SuperMossHB
- 5.2 pH Mash Stabilizer
- PBW

FIVE STAR
Five Star Chemicals

Email us at: support@fivestarchemicals.com

BEER GARDENS FOR VICTORY
DO YOUR PART & BREW, BREW, BREW!

\$7.99
FLAT-RATE* SHIPPING!
in the contiguous USA.

Fast-order turnaround.
 The complete and comprehensive source for all your homebrewing needs.

*New beer and bottle fees are included, unless otherwise noted. Void where prohibited.

NORTHERN BREWER
 (800) 681-2739
www.northernbrewer.com

NORTHERN BREWER'S CIVILIAN BREWING DIVISION



LUPULIN THRESHOLD SHIFT

lupulin threshold shift
 \lu·pu·lin thresh·old
 shift\ n

1. When a once extraordinarily 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

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: 1.072

Final Gravity: 1.011

Extract Efficiency: 75 percent

IBUs: 90-95 (actual/not calculated)

ABV: 8.2%

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 runoff, 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 (3.8 L) of water at 165° F (74° 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.

through 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



MICRO MATIC

World's Largest Draft Equipment Website!

www.micromatic.com

1-866-327-4159

• Shop • Order • Education • Beer Forum

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.



The Region's Largest Home Beer & Winemaking Stores

SOUTH HILLS BREWING SUPPLY

2212 Noblestown Rd.
Pittsburgh, PA 15205
(412) 937-0773

www.southhillsbrewing.com

Check out our
"Pick 16" on-line hop
special—great prices
for "hoppy" brewing

2000 Square Feet of...
BEER & WINE SUPPLIES

Supplying Award Winning
Brewers & Wine Makers
Since 1972

Manufacturer of...
Superferment®,
Yeast Bank® &
The Country Wines
Acid Test Kit

Country Wines

3333 Babcock Blvd.
Pittsburgh, PA 15237
(412) 366-0151

www.countrywines.com

WHOLESALE INQUIRIES WELCOME

IT ALL BEGAN ON A BREW-MAGIC™ SYSTEM by Sabco

Sam Calagione, avid home-brewer, opened Dogfish Head Craft Brewery in 1995, brewing three times a day on his original Brew-Magic System. *"It made me a better brewer and allowed me to experiment and refine my recipes at an affordable batch size. For accuracy and repeatability, there's just no comparison! I highly recommend the Brew-Magic for anyone interested in taking their homebrewing skills to the next level."*

Visit **KEGS.COM** and discover why this little brewery has become the most desired small batch / pilot system on a global scale. Utilized in over 20 countries, Brew-Magic by Sabco, can be found in large brewer labs, micros, pubs, as well as the 'home-brew havens' of private owners everywhere! *Where's the magic you ask?* Designed by professional brewing scientists, Brew-Magic eliminates the many variables so typical of small batch brewing. It will record your brewing sessions and allow uploading and downloading of recipes from your PC.

To Say It Simply... The Magic is in the Details!



Sabco
a div. of Kegs.Com Ltd.
(419) 531-5347

