





# Et Tu, Brut:

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## Brewing the *Champagne* of Beers By Drew Beechum

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For more than a generation, the “champagne of beers” failed to live up to its billing. No leap of imagination could conjure a magical beverage from that pale yellow, ghostly beer. That all changed with the release of Malheur Brut and DeuS de Bosteels, strong spicy Belgian ales that transcended slogans and delighted the drinker with an explosion of aromas and spices and a dry, sparkling mouthfeel. These new “brut” beers have proven to be a big hit with beer enthusiasts and wine drinkers.

Brouwerij de Landtsheer and Brouwerij Bosteels employ the laborious and traditional *méthode champenoise* to put the fizz in brut and it shows in the wine-like price of these interesting bottles.

The combination of intense flavors, traditions and techniques evinced an irresistible draw to this homebrewer’s kettles. Because of the many steps involved, a large batch of brut makes a fun club project. Brewing a brut takes a little extra work and time, but when you’re popping the corks and wowing everyone—even your non-beer-drinking friends—it’s worth the effort.

Brewing your own brut beers involves demystifying and simplifying the steps of *méthode champenoise*.

### Basics of the Style

The brut beer concept is still evolving, but already it carries the Belgian nonchalance toward style categorization. Invariably, the beers are bone-dry, complex and spicy with an alcohol level between 10 and 12 percent ABV. Color ranges from the pale hazy straw of DeuS de Bosteels to the deep brown Malheur Black Chocolate. The nose is filled with aromas of the Far East: cinnamon, allspice, bergamot, orange, lavender, vanilla, ginger and more. The buzz of the aroma is pushed by the prodigious carbonation, often 3.5 to 7 volumes or more of CO<sub>2</sub>.

Bruts finish dry with final gravities around 1.010 in many examples. Normally, beers this dry and high in alcohol have a thin, hot, unpleasant body that falls flat and harsh in the mouth, but the vigorous carbonation puffs up the body. A final touch of sweetness,





Once the bottles have rested inverted for two months, it is time to remove the yeast.



Prepare your freeze bath with a half-gallon of acetone and a portion of a 3-pound block of dry ice.



To create an ice plug, take a still inverted bottle and place the neck into solution.



You can use a heat gun to loosen the plug. Use the lowest setting of your gun or hairdryer—don't shock it into breaking.

introduced by a post-bottling addition of sugar, closes the beer.

### Designing and Brewing a Brut

After thorough, repeated tastings of commercially available brut beers, the Maltose Falcons gathered a crew to design our own. After much debate, my fellow brewers—Kent Fletcher, Cullen Davis, Jim Kopitzke and Jonny Lieberman—and I settled on our approach to our pale brut beer, Brut du Faucon, and our sequel, the dark chocolate Brut du Faucon Noir.

The guiding philosophy with both brut recipes is to make beers that start around 1.085 and finish around 1.010 with a light finish and strong aromatic profile. To that end, the beers center around a grain bill of Belgian Pilsener malt with 10 to 20 percent sugar to decrease residual gravity. Use the most fermentable extract you can find. Champenoise treatment requires that the beer be 10 to 11 percent to ensure successful conditioning, so resist the temptation to go larger.

Specialty grains serve to provide accents to yeast and aroma characteristics. Aromatic and Caramel Pils malts are used in Brut du Faucon to balance the sweetness of the lavender and ginger additions. In the Noir, Special B and Carafa® malt and turbinado sugar build the base of a strong chocolate character reinforced by vanilla and mace additions.

In our approach to brut, we keep the mash schedule to a simple single infusion mash that runs cooler than most mashes, 148° F for 60 minutes. The goal is to produce more simple sugars for the yeast. While you could use a more traditional Belgian multi-step mash, we chose to skip the protein rest to maximize the heading qualities of the beer.

Hops are kept simple: a few small additions of continental hops, Saaz and Styrian Goldings complement the beer's bold aromas. For a small punch of flavor we add small quantities of spices at flameout, preferring to derive the bulk of the aroma from our bottling syrup and yeast strain choice.

Because we're dealing with high alcohol and pressure and long conditioning times, a large and healthy yeast culture is impera-

tive at the start. Using a yeast cake from a previous lower gravity batch ensures a high quality product. The original Brut du Faucon used a blend of Chimay, Dupont, De Koninck and Unibroue strains to drive a complex yeast character. Fellow Falcon and yeast expert to the stars, Dr. MB Raines, provided the blend. Since the Noir is a more heavily spiced beer, we chose to simplify with one yeast strain that shows high alcohol tolerance and stability, Wyeast 3787 Trappist High Gravity.

### Putting the Bubbles In

Legend places the discovery of champagne and the eventual development of *méthode champenoise* at the feet of Benedictine monk Dom Perignon and his experiences with bottles of sweet wine blowing up in the cellar of the Abbey of Hautvillers. His cry: "Come quickly, I am tasting the stars!"

Truth be told, *méthode champenoise* requires only a few steps beyond the regular bottling practiced by brewers. The goal of each step is to produce a highly carbonated bottle-conditioned beer that is sediment free, yet bright and smooth tasting from the prolonged exposure to the yeast. Enticingly, it involves dry ice and small explosions.

### Bottling

Since we're dealing with higher carbonation pressures, we need to use domestic sparkling wine bottles with deep punts in the bottom instead of domestic long-necks.

*Beware of bottles with flat bottoms! They are unsafe at high pressures.*

Imported champagne bottles take European crown caps. Brut brewing provides a stellar time to go larger with the bottles. Small 375-milliliter bottles lose too much of the beer during disgorgement. Bigger bottles make an impressive, festive show. Both 750-milliliter and 1.5-liter bottles are readily available at retail. However, bottles of 3 liters or greater currently must be scrounged from bars and restaurants or wedding caterers.

With the higher carbonation of the style, these beers use substantially more sugar per batch. To achieve 3.5 to 7 volumes of CO<sub>2</sub> as desired, plan on using between

7 to 14 ounces (by weight) of brewer's sugar per 5 gallons bottled. Exact measurements depend upon the fermentation temperature and volume.

Dissolve the sugar into a pint of water and bring to a boil for 15 minutes. This is the perfect time to add extra flavor and aroma to the brew by adding spices to the syrup. Remember that these additions will be intensified by the carbonation, so use a light hand.

Blend the sugar syrup into the finished beer and bottle as usual into the sparkling wine bottles. Double-check the seal on the caps before putting the bottles away.

Place the bottles upside down in the case boxes and lay the boxes on their sides for conditioning. Store for two months at cellar temperatures.

### Riddling

After months of conditioning, the bottles of brut will have an impressive sediment layer. The removal process starts with a

systematic spinning of sediment in the bottle, called "riddling." The goal is to slowly move the yeast down the bottle to the crown cap while inverting the bottle.

Traditional riddling is done on specially designed A-frame racks that are beyond the necessary investment level for a homebrewer. Instead, we follow a modern variation, "case riddling," using the case boxes. Home winemakers sometimes use plastic shelving or cut PVC pipes to hold the bottles for riddling, but we have not tested these variants.

Every few days pick up each bottle and give it a quick, hard spin. Over a month, as the bottles are spun, the full case boxes are slowly angled so that the bottles finally rest on their caps. The bottles continue to be spun until the sediment is brought into the neck.

By slowly moving the bottles fully upside down while constantly sweeping the yeast away from the bottle sides, we form a tight plug of yeast in the neck, making the next step easier.



Remember to wear safety glasses!



Brace the bottle against your leg, point in a safe direction and remove the crown cap.

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With little to no encouragement, the yeast plug will fly out of the bottle along with ice and a little beer.



Using a syringe or pipette, top up the bottle with the dosage liquid and cork.

This whole process should take you less than 10 seconds!



Be careful when hammering the cork.



Secure the cork with a wire champagne cage.



A finished bottle of Brut du Faucon.

### Freezing, Firing and Filling

Once the bottles have rested inverted for two months, we are ready to remove the yeast. To do this, we employ dry ice and several helpful quick hands to create a small ice plug in the bottleneck that is

shot out of the bottle by removing the crown cap. Disgorgement day is the best time to enlist your fellow brewers as the work is fast and furious.

Before starting, get the beer cold (35 to

## Brut du Faucon Noir

Inspired by Malheur Black Chocolate, a dry dark chocolate and vanilla spiced Belgian ale with a body boosted by the voluminous carbonation.

### Ingredients

for 5.5 U.S. gallons (21 liters)

<b>10.00 lb</b>	(4.54 kg) Belgian Pilsener Malt
<b>1.75 lb</b>	(0.79 kg) Cane Sugar
<b>0.75 lb</b>	(340 g) Wheat Malt
<b>0.50 lb</b>	(226 g) Turbinado Sugar
<b>0.50 lb</b>	(226 g) Munich Malt
<b>0.50 lb</b>	(226 g) Special B Malt
<b>0.25 lb</b>	(113 g) Carafa® Chocolate Malt
<b>1.0 oz</b>	(28 g) Styrian Goldings, 4.0% AA, 60 min
<b>0.40 oz</b>	(11.3 g) Czech Saaz, 3.5% AA, 20 min
	1/2 vanilla bean and 1 cinnamon stick at knockout
	Wyeast 3787 Trappist High Gravity Yeast

**Original Target Gravity:** 1.084

**Final Target Gravity:** 1.008

**IBUs:** 15

**SRM:** 18.4

### Directions

Mash at 147° F (63° C) with 15 quarts of water for 90 minutes.

Prime with 13.70 ounces of corn sugar boiled with 1/8 ounce vanilla, 1/4 ounce cinnamon, 1/8 ounce allspice and 1/3 ounce mace in champagne bottles (5.5 volumes).

For extract brewing, replace Pilsener Malt, Wheat Malt and Munich Malt with 9 lbs. of light liquid malt extract.



Members of the Maltose Falcons enjoy the fruits of their labor. Left to right: Drew Beechum (president), Derreck Bourdon (former professional brewer, BJ's), Jonny Lieberman (newsletter editor), Kent Fletcher (treasurer and brut caretaker).

40° F) to help hold carbonation in solution when the bottles are violently vented. Remember to carefully move the bottles to avoid disturbing the sediment or breaking the glass.

As the beer chills, prepare a “dosage” liquid to top up your bottles after opening. Champagne tradition dictates a mix of wine, cognac and sulfites. For the bruts we’ve used sugar syrups and beer to replace the liquid lost while opening the bottles. The dosage is your final opportunity to add aroma and flavor to the beer.

Traditionally, disgorgement utilizes a mixture of salt and ice to freeze the neck solid, but in our tests we produced a low temperature of 19° F, not nearly cold enough. We suggest taking advantage of dry ice and acetone, a combination that chills to -90° F. Prepare your freeze bath with a half-gallon of acetone and a portion of a 3-pound block of dry ice. Keep feeding small blocks of dry ice to keep the acetone bubbling.

*Be very careful not to handle dry ice or the bath with bare hands! Remember to wear safety glasses!*

To create an ice plug, take a still inverted bottle and place the neck into solution. Watch carefully and pull when an ice plug

has surrounded the yeast, about one to two minutes. Don’t let the plug form below the bell of the neck.

Quickly brace the bottle against your leg, point in a safe direction away from brewing partners, small animals and children, and remove the crown cap. With little to no encouragement, the yeast will fly out of the bottle along with the ice and a little beer. Using a syringe or pipette refill the bottle with the dosage liquid and cork.



## MÉTHODE CHAMPENOISE CHEAT SHEET

- Brew a beer between 1.080-1.085 that drops to 1.010.
- Bottle in champagne bottles with 7 to 14 ounces of sugar per 5 gallons.
- Condition for two months on bottle side in the case boxes.
- Over a month, spin each bottle while slowly raising the case boxes to vertical.
- Rest for two months upside down.
- Chill beer.
- Freeze neck in a mixture of acetone and dry ice.
- Pop the cap and ice plug.
- Refill the bottle with a dosage liquid.
- Cork, cage and foil.
- Let sit for another two weeks.

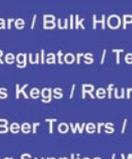
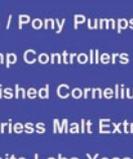
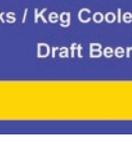
This whole process should take you less than 10 seconds!

Secure the cork with a wire champagne cage, twisting with pliers to close the cage around the cork top and the bottle lip. For the final decoration slide a champagne foil over the top and crimp it into place.

While it’s true you could use another crown cap to seal the bottle, part of the romance of brut is the presentation of a caged cork and the “pop” on (continued on page 31)

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**Et Tu Brut:** (continued from 23)

opening. If you're obsessive, you could buy a special champagne corker and real champagne corks, but for our purposes the modern plastic champagne corks work well. With a quick tap from a hammer or mallet, the plastic corks seat firmly into the bottles.

### Now to the Enjoyment...

Now that the hard work is done, sit back and relax. Give the bottles a few weeks to settle again and then chill. Bruts are best served almost achingly cold to give the carbonation a slow release that teases the nose with the profound yeast and spice aromas. As you carefully open the bottle—pointing away from others—and pour into your favorite glass, consider the other possible ways to produce a brut.

If you stopped after the bottling stage, you would have a delightfully flavorful beer that would be hazy and muddy from the massive carbonation release upon opening. Alternatively, you could also skip bottling altogether and force carbonate the beer at high pressure (40 to 45 PSI) in kegs. To serve without gushing, you need an extra long serving hose and some patience. However, the beer would be missing the additional character that comes from the long exposure to yeast.

In the end, there is little to match the pride and pleasure of your own champagne to sip in celebration of a life spent brewing. Just remember, keep the beer dry and get your friends involved. Toasting is better with brewing partners.

Note: My thanks go out to the members of my homebrew club, the Maltose Falcons, for their enthusiastic help with these projects and their feedback on the beers. Particularly, these projects never could have happened without the tireless efforts of Kent Fletcher, the Brewgyver, and Jonny Lieberman, Mr. Pie Beer. Keep an eye on MaltoseFalcons.com for our continuing Brut Adventures.

**Drew Beechum lives in Los Angeles, Calif. When not busy playing with computers for pay, he plays with beer. For the past four years, he has served as president of the Maltose Falcons, America's oldest homebrew club, and**

**has brewed on his kitchen stove for seven years.** 

### References

**Bière de champagne style:** <http://beeradvocate.com/beer/style/141/>

**Brouwerij de Landtsheer:** [www.malheur.be/](http://www.malheur.be/)

**Brouwerij Bosteels:** [www.bestbelgianspecialbeers.be/](http://www.bestbelgianspecialbeers.be/)

**Maltose Falcons Brut Project:** [http://maltosefalcons.com/tech/methode\\_champenoise/](http://maltosefalcons.com/tech/methode_champenoise/)

**"Sparkling Wine, A Home Winemaker's Guide to Methode Champenoise."**  
Jim Gifford; American Wine Society

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## Brut du Faucon

**Inspired by *DeuS de Bosteels*, a pale ginger, lavender spiced beer that is intensified by the champagne treatment.**

### Ingredients

**for 5.5 U.S. gallons (21 liters)**

<b>13.00 lb</b>	(5.90 kg) Belgian Pilsner Malt
<b>0.25 lb</b>	(113 g) Belgian Caramel Pils (8L)
<b>0.25 lb</b>	(113 g) Belgian Aromatic Malt
<b>2.00 lb</b>	(0.91 kg) Clear Candi Sugar
<b>1.0 oz</b>	(28 g) Styrian Goldings 5.25% AA 60 minutes
<b>0.5 oz</b>	(14 g) Czech Saaz 3.5% AA 20 minutes
	Wyeast 3787 Trappist High Gravity Yeast

**Original Target Gravity:** 1.085

**Final Target Gravity:** 1.010

**IBUs:** 23

**SRM:** 5

### Directions

Mash at 148° F (64° C) with 16 quarts of water for 60 minutes. Prime with 7.75 ounces of corn sugar boiled with lavender, cinnamon, allspice and fresh ginger in champagne bottles (3.5 volumes).

For extract version, replace Pilsner and Caramel Pils malts with 7.5 lb. of light or extra light dry malt extract.



Inspired by the Deschutes Brewery & Public House on Bond Street in downtown Bend, the Bond Street Series highlights a handful of our beers that began at "the pub." These local favorites, old and new, are brewed in small batches a few times a year, displaying Deschutes' diversity and creativity.

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