

# **Brew** the best of **YOUR OWN**

## **ENGLISH IPA**



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## **Bière de l'Inde**

**(5 gallons/19 L, all-grain)**

OG = 1.062 (15.2 °P)

FG = 1.015 (4.0 °P)

IBU = 50 SRM = 12 ABV = 6.2%

### **Ingredients**

11 lbs. (5 kg) Crisp British pale ale malt (or similar English pale ale malt)

7.1 oz. (200 g) Great Western crystal malt (40 °L)

7.1 oz. (200 g) Castle biscuit malt (25 °L)

7.1 oz. (200 g) Great Western wheat (malt 2 °L)

5.3 oz. (150 g) Great Western crystal malt (120 °L)

9.6 AAU Challenger hops (1.20 oz./34 g of 8% alpha acids) (60 min.)

6.15 AAU Fuggles hops (1.23 oz./35 g of 5% alpha acids) (10 min.)

6.15 AAU East Kent Goldings hops (1.23 oz./35 g of 5% alpha acids) (0 min.)

White Labs WLP013 London Ale or Wyeast 1028 London Ale yeast

### **Step by Step**

The bulk of the flavor comes from the base grain, so try to get British pale ale malt. The crystal and wheat malt I use in this recipe is from Great Western Malting Co., though an even better choice for this style is British-type crystal malts.

Mill the grains and dough-in targeting a mash of around 1.5 quarts of water to 1 pound of grain (a liquor-to-grist ratio of about 3:1 by weight) and a temperature of 152 °F (67 °C). Hold the mash at 152 °F (67 °C) until enzymatic conversion is complete. Infuse the mash with near boiling water while stirring or with a recirculating mash system raise the temperature to mash out at 168 °F (76 °C). Sparge slowly with 170 °F (77 °C) water, collecting wort until the pre-boil kettle volume is around 5.9 gallons (22.3 L) and

the gravity is 1.053 (13 °P).

Once the wort is boiling, add the bittering hops. The total wort boil time is 1 hour after adding the bittering hops. During that time add the Irish moss or other kettle finings with 15 minutes left in the boil and add the last two hop additions at 10 minutes remaining and at flame out. Chill the wort to 68 °F (20 °C) and aerate thoroughly. The proper pitch rate is 11 grams of properly rehydrated dry yeast, 2 packages of liquid yeast, or 1 package of liquid yeast in a 2-liter starter. Ferment around 68 °F (20 °C) until the yeast drops clear. With healthy yeast, fermentation should be complete in a week or less. Allow the lees to settle and the brew to mature without pressure for another two days after fermentation appears finished. Rack to a keg and force carbonate or rack to a bottling bucket, add priming sugar, and bottle.

## **Bière de l'Inde (5 gallons/19 L, extract with grains)**

OG = 1.062 (15.2 °P)

FG = 1.015 (4.0 °P)

IBU = 50 SRM = 12 ABV = 6.2%

### **Ingredients**

7.34 lbs. (3.33 kg) English pale liquid malt extract

7.1 oz. (200 g) Great Western crystal malt 40 °L

7.1 oz. (200 g) Castle biscuit malt 25 °L

7.1 oz. (200 g) Great Western wheat malt 2 °L

5.3 oz. (150 g) Great Western crystal malt 120 °L

9.6 AAU Challenger hops (1.20 oz./34 g of 8% alpha acids) (60 min.)

6.15 AAU Fuggles hops (1.23 oz./35 g of 5% alpha acids) (10 min.)

6.15 AAU East Kent Goldings hops (1.23 oz./35 g of 5% alpha acids)

(0 min.)

White Labs WLP013 London Ale or Wyeast 1028 London Ale yeast

### **Step by Step**

I use an English-type liquid malt extract custom made for my homebrew shop from a 100% Maris Otter malt. If you can't get fresh liquid malt extract, it is better to use an appropriate amount of dried malt extract (DME) instead.

Mill or coarsely crack the specialty malt and place loosely in a grain bag. Avoid packing the grains too tightly in the bag, using more bags if needed. Steep the bag in about 1 gallon (~4 liters) of water at roughly 170 °F (77 °C) for about 30 minutes. Lift the grain bag out of the steeping liquid and rinse with warm water. Allow the bags to drip into the kettle for a few minutes while you add the malt extract. Do not squeeze the bags. Add enough water to the steeping liquor and malt extract to make a pre-boil volume of 5.9 gallons (22.3 L) and a gravity of 1.053 (13 °P). Stir thoroughly to help dissolve the extract and bring to a boil.

Once the wort is boiling, add the bittering hops. The total wort boil time is one hour after adding the bittering hops. During that time add the Irish moss or other kettle finings with 15 minutes left in the boil and add the last two hop additions at 10 minutes remaining and at flame out. Chill the wort to 68 °F (20 °C) and aerate thoroughly. Ferment around 68 °F (20 °C) until the yeast drops clear. With healthy yeast, fermentation should be complete in a week or less. Allow the lees to settle and the brew to mature without pressure for another two days after fermentation appears finished. Rack to a keg and force carbonate or rack to a bottling bucket, add priming sugar, and bottle.

the total of all specialty grain additions to less than 15% of an all-grain grist.

The Beer Judge Certification Program (BJCP) divides the India pale ale category into three sub-styles. You should think of all of them as “hoppy,” but there is a vast difference in the level of hops between the IPA sub-styles. On the lower end is English IPA, which, while hoppy, does not have quite as bold a hop character as is found in American IPA. In an English IPA, the hops should never be overwhelming, resin-like, or shockingly bitter. English IPA should be firmly bitter, but the bittering and hop character should not completely overpower the fermentation and malt character. Bold, but not overdone is the key here. The trick is to get the right level of hop aroma and flavor, using traditional English hops, without going completely overboard.

English IPA is best brewed with English hops, such as East Kent Goldings, Fuggles, Target, Northdown or Challenger. The bittering level for English IPA is in the range of 40 to 60 IBU. Target a firm hop bitterness, without overwhelming the malt background. Keep in mind that there are many factors at play in the final impression of bitterness for the drinker. The starting and final gravities, water sulfate levels, the character malts selected, type of base malt, yeast strain, pitching rate, and even the yeast cell size have an impact on the perceived bittering. For most English IPAs, a bitterness-to-starting-gravity ratio (IBU divided by OG) between 0.7 and 1.0 gives the proper result. As a general rule of thumb in determining late hop amounts, include at least double the amount of bittering hops. Keep in mind this is just a generalization, since using very low or high alpha acid hops makes the equation faulty. For an English IPA include two or more late hop additions using two different hop varieties, totaling around 1 to 3 oz (28 to 85 g) for a 5-gallon (19-L) batch at 20 minutes or later. You can use more than two varieties, but do not go crazy. A couple of varieties creates an interesting complexity; ten different hop varieties creates

“English IPA is best brewed with English hops, such as East Kent Goldings, Fuggles, Target, Northdown or Challenger.”

an indistinct “hoppiness.” Dry hopping and using a hop jack are also good ways to develop hop character for this style. If you do dry hop this beer, you should reduce the late hop additions to keep the hop flavor and aroma balanced with the malt character.

The sulfate content of brewing water affects the character of hop bitterness to a significant degree. When brewing with low sulfate water you are forced to add a large amount of hop alpha acids to develop enough bittering. However, adding large quantities of hops to get a stronger bittering can result in a resin-like character. Cutting back on the hops and adding a moderate amount of gypsum (or “Burtonizing” the water), results in a sharper, crisper hop bitterness without the resin character. While the BJCP style guide mentions high sulfur levels and sulfur character in examples of the style, an apparent sulfur character is a flaw. You shouldn’t be trying to mimic the water of Burton-on-Trent. It is easy to overdo mineral additions, resulting in a chalky, metallic or harsh character. Most water only requires a small amount of gypsum. Start low, targeting half the amount of total sulfate typical of Burton water. If you do not know the sulfate content of your water, start with one gram of gypsum per gallon. Generally, you should need no more than three grams per gallon. It is usually better to add less than to add more and it only takes a small amount to accentuate hop bitterness. You can add gypsum to the mash or, if you are brewing with extract, you can add it directly to your boil kettle

water before you heat it.

“English” yeast strains provide a variety of interesting esters and leave some residual sweetness to balance a bitter beer. Many English yeasts tend to attenuate on the lower side (< 70%), but for an English IPA you want to choose one of the more attenuative English yeasts. While you do want some balancing malt sweetness, using a low attenuating yeast in a bigger beer can result in a beer that is too heavy and sweet. My favorites for this style are White Labs WLP013 (London Ale) and Wyeast 1028 (London Ale). They both provide a wonderful ester profile without being excessively fruity, and they attenuate a little more than most English yeasts. If you like to experiment, try to select English yeasts that attenuate in the mid 70s percent or higher. If you prefer dry yeast, Danstar Nottingham should produce good results.

At lower temperatures (such as <65 °F/18 °C), these yeasts produce a relatively low level of esters and at high temperatures (>70 °F/21 °C) they produce abundant fruity esters and fusel alcohol notes. I start fermentation in the middle of this range (68 °F/20 °C), letting the temperature rise a few degrees, slowly over a couple days. This creates the expected level of esters, helps the yeast attenuate fully, and keeps the amount of diacetyl in the finished beer to a minimum. If you must use less attenuative yeast, take steps to ensure enough attenuation. You can lower the starting gravity, lower the mash temperature, or replace a portion of the base malt with simple sugar to aid in drying out the final beer.

Serving English IPA at cellar temperature, around 52 to 55 °F (11 to 13 °C), allows the character of the beer to come out and can improve drinkability. Colder temperatures prevent the drinker from picking up the interesting fermentation and malt flavors and aromas of this style, so do not go below 50 °F (10 °C). Target a carbonation level around 2 to 2.5 volumes of CO<sub>2</sub> for bottled, 1.5 volumes for kegged, and 1 volume of CO<sub>2</sub> for cask conditioned beer. 

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