

# Random Hop IPA

Author: Jaime  
Date: 9/19/2009  
Category: 14 - India Pale Ale (IPA)  
Subcategory: C - Imperial IPA



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Kettle Volume: 13.71 gal (S.G.: 1.060)	Efficiency: 90.0%
Boil Duration: 90.0 min	Attenuation: 80.0%
Evaporation: 2.25 gal	Evap/Hour: 1.5 gal
Water Volume Added: 0.0 gal	
Final Volume: 11.02 gal (S.G.: 1.075)	

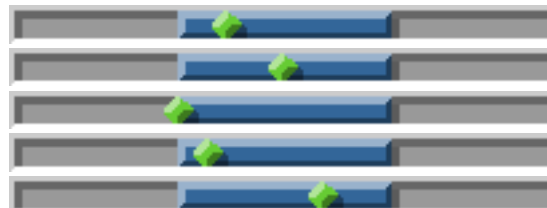
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## Ingredients:

22.5 lb French Pilsner  
2.5 lb Crystal 15  
3.0 tsp 5.2 pH Stabilizer - added during mash  
2.0 oz HG Nugget (8.0%) - added during boil, boiled 90.0 min  
1.0 oz Glacier (5.5%) - added during boil, boiled 90.0 min  
2.0 oz HG Cascade (3.5%) - added during boil, boiled 60.0 min  
1.0 oz Amarillo (8.5%) - added during boil, boiled 30.0 min  
1.0 oz HB Centennial (6.0%) - added during boil, boiled 30.0 min  
1.0 oz HG Cascade (3.5%) - added during boil, boiled 30.0 min  
1.0 oz Amarillo (8.5%) - added during boil, boiled 15.0 min  
0.85 oz HB Centennial (6.0%) - added during boil, boiled 15.0 min  
1.0 oz HG Cascade (3.5%) - added during boil, boiled 15.0 min  
2.0 tsp Irish Moss - added during boil, boiled 10.0 min  
1.0 oz Cascade (5.5%) - added during boil, boiled 5.0 min  
1.0 oz Hallertau (4.5%) - added during boil, boiled 5.0 min  
1.0 oz Glacier (5.5%) - added during boil, boiled 5.0 min  
0.75 oz Northern Brewer (8.0%) - added during boil, boiled 0.0 min  
1.0 oz Perle (8.3%) - added during boil, boiled 0.0 min  
1.0 oz Fuggle (4.8%) - added during boil, boiled 0.0 min  
1.0 oz HG Willamette (3.0%) - steeped after boil  
1.0 oz HG Nugget (8.0%) - steeped after boil  
1.0 oz HG Cascade (3.5%) - steeped after boil  
1.0 oz HG Centennial (6.0%) - steeped after boil  
.5 oz Simcoe (13.0%) - added during boil, boiled 90.0 min  
3.0 ea White Labs WLP029 German Ale/Kölsch

## Style:

Recipe	Guideline
Original Gravity: 1.075	1.070 - 1.090
Terminal Gravity: 1.015	1.010 - 1.020
Color: 8.01 °SRM	8.0 - 15.0
Alcohol: 7.87%	7.5% - 10.0%
Bitterness: 100.7	60.0 - 120.0



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**Analysis:**

	<b>Apparent</b>	<b>Real</b>	<b>Weight</b>	<b>Calories</b>
Original Extract:	18.07 °P	18.07 °P	Alcohol: 22.16 g	152.92 kcal
Attenuation:	80.0%	63.8%	Carbs: 23.2 g	88.17 kcal
Terminal Extract:	3.8 °P	6.54 °P	Protein: 1.62 g	6.5 kcal
	% Alcohol: 7.87% ABV	6.15% ABW		Total: 247.59 kcal

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**Schedule:**

Ambient Air: 70.0 °F  
Source Water: 60.0 °F  
Elevation: 600.0 m

00:17:57 Dough-In  
Liquor: 8.44 gal  
Strike: 155.66 °F  
Target: 145.0 °F

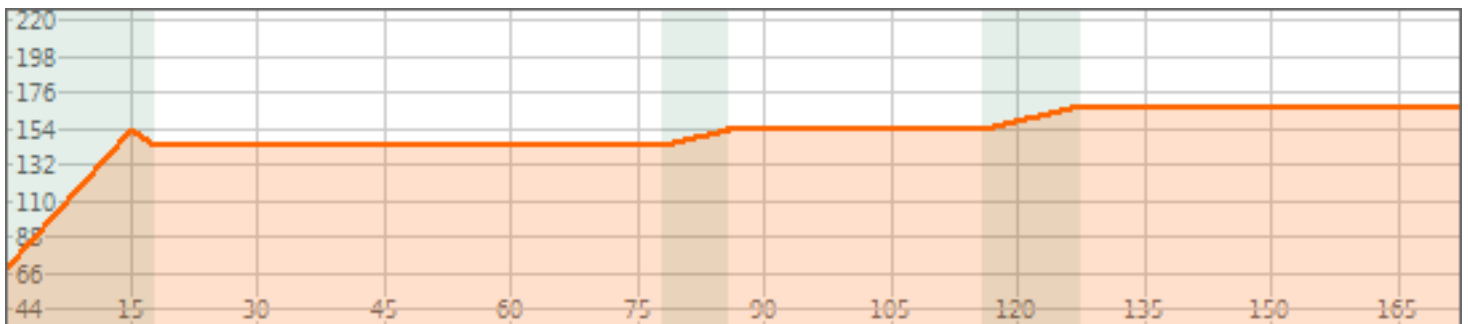
01:17:57 Beta-amylase Rest  
Rest: 60.0 min  
Final: 145.0 °F

01:25:47 HERMS  
Heat: 7.8 min  
Target: 155.0 °F

01:55:47 Alpha Amylase Rest  
Rest: 30.0 min  
Final: 155.0 °F

02:07:31 Mash-Out  
Heat: 11.7 min  
Target: 170.0 °F

02:52:31 Sparge  
Sparge Volume: 12.5 gal  
Sparge Temperature: 168.0 °F  
Runoff: 13.43 gal

**Notes:**

Ferment at 68 degrees.