

BREWSHEET v1.0 (2010-02-26)

Batch				BJCP Style Guideline		Efficiency		
Brew Name:	Hopfully IPA (HF)			Style:	American IPA		Brewhouse Efficiency:	68%
Estimated OG:	1.068	Actual OG:	1.060	Code:	14B		Efficiency (on Batch Size):	60%
Estimated FG:	1.016	Actual FG:	1.014	OG:	1.056-1.075		Efficiency into Boiler:	89%
Estimated IBU:	86.5	Actual IBU:	76.9	FG:	1.010-1.018		Efficiency into Fermenter:	73%
Estimated SRM:	8.5	Actual SRM:	7.4	IBU:	40.0-70.0			
Brew Date:	02/21/10	Collected:	5.75	SRM:	6.0-15.0			
Rack Date:	03/04/10	Racked:	5.40	ABV:	5.5-7.5%			
Bottle Date:	03/13/10	Bottles:	48	CO2:	1.5-2.3			

Grain	Pounds	Potential	Color	% Bill
Pale Malt (2-Row) US	13.50	1.036	2	87.10%
Carapils/Dextrine	1.00	1.033	2	6.45%
Caramel/Crystal 40L	1.00	1.034	40	6.45%

Hop	Alpha %	Ounces	Boil Time	IBU
Simcoe	12.2%	0.75	90	26.1
Simcoe	12.2%	0.25	60	8.1
Columbus	13.2%	0.25	60	8.8
Simcoe	12.2%	0.25	30	6.3
Columbus	13.2%	0.25	30	6.8
Simcoe	12.2%	0.75	15	12.1
Columbus	13.2%	0.75	15	13.1
Cascade	5.4%	1.00	10	5.2
Simcoe	12.2%	0.50	0	0.0
Columbus	13.2%	0.50	0	0.0
Amarillo	8.6%	0.50	dry	0.0
Cascade	5.4%	0.50	dry	0.0
Centennial	9.1%	0.50	dry	0.0
Columbus	13.2%	0.50	dry	0.0
Simcoe	12.2%	0.50	dry	0.0

Yeast Strain	
Yeast Strain:	White Labs WLP001
Type:	California Ale
Attenuation:	73-80%
Fermentation Temp:	68-73F
Flocculation:	medium

Yeast Required	
Cell Count (billions):	259
Vials (White Labs/Wyeast):	2.2
Dry Yeast (g):	13
Starter Volume (mL):	1000
DME Required (oz)	3.50
Vials Required (w/ Starter):	2.1

User Variables	
Calories per Pint:	200
12 oz. Bottles Required:	56.4
DME for Carbonation (oz.):	4.21
Estimated Preboil SG:	1.056
Actual Attenuation (%):	76.84%
Bottle Top Code:	HF

Gravity		Collections	
Potential OG:	1.101	First Runnings (gal):	5.10
OG:	1.060	SG of First Runnings:	1.054
OG Temperature (F):	62	SG Temperature (F):	145
Corrected OG:	1.060	Corrected SG:	1.071
SG at Racking:	1.017	Second Runnings (gal):	4.45
SG Temperature (F):	68	SG of Second Runnings:	1.018
Corrected SG:	1.018	SG Temperature (F):	156
FG:	1.013	Corrected SG:	1.039
FG Temperature (F):	68	Preboil Volume (gal):	9.55
Corrected FG:	1.014	SG of Preboil Volume:	1.027
Potential ABV:	9.0%	SG Temperature (F):	167
Actual ABV:	6.1%	Corrected SG:	1.051

Brewing			
Batch Size (gal):	5.50	Desired Sparge Temperature (F):	168
Total Grain Weight (lbs):	15.50	Sparge Water (gal):	3.40
Grain Temperature (F):	64	Sparge Water Temperature (F):	183
Mash Ratio (qts/lb):	1.25	Estimated Preboil Volume (gal):	8.20
Mash/Lauter Deadspace (gal):	0.25	Boil Time (min):	90
Total Water Needed (gal):	10.39	Evaporation Rate (%):	13%
Desired Mash Temperature (F):	153	Estimated Evaporation Loss (gal):	1.60
Strike Water (gal):	4.84	Trub Loss (gal):	1.10
Strike Temperature (F):	170	Volume Left in Kettle (gal):	0.90
Grain Absorption (gal):	1.94	Actual Evaporation Rate (%):	13%
Mash-out Temperature (F):	152	Actual Evaporation Loss (gal):	1.80
Mash-out Water (gal):	2.14		
Estimated First Runnings (gal):	4.80		

Carbonation	
CO2 Volume:	1.90
Bottling Temperature (F):	68
Priming Sugar (oz):	3.01
Forced Carbonation (lbs):	18.2

Inventory	
Bottles Remaining:	1
Gallons Remaining:	0.09
Date Checked:	05/12/10

Diacetyl Rest	
Target Fermentation Completion:	75%
Target SG for Diacetyl Rest:	1.026

BREW DAY

Single Infusion Mash (with Mash-out) and Batch Sparge Brew Schedule
Heat 4.84 gallons of mash water to 170F
Add grain and mash at 153F for 60 minutes
At T-40 to mash-out, heat 2.14 gallons of mash-out water on the stove to 210F
At T-25 to mash-out, heat 3.4 gallons of sparge water in the kettle to 183F
Mash-out with 2.14 gallons, mix and hold for 10 minutes
Vorlauf and collect first runnings (approx. 4.8 gallons)
Add 3.4 gallons to lauter tun, mix, hold for 10 minutes, and sparge
Vorlauf and collect second runnings (approx. 3.4 gallons)
Boil for a total of 90 minutes with the following hop schedule:
0.75 oz. Simcoe @90 minute(s)
0.25 oz. Simcoe @60 minute(s)
0.25 oz. Columbus @60 minute(s)
0.25 oz. Simcoe @30 minute(s)
0.25 oz. Columbus @30 minute(s)
0.75 oz. Simcoe @15 minute(s)
0.75 oz. Columbus @15 minute(s)
1 oz. Cascade @10 minute(s)
0.5 oz. Simcoe @0 minute(s)
0.5 oz. Columbus @0 minute(s)

Notes
First starter ever!
Mashed for a bit longer (70 minutes) because the mash-out water took longer to heat up.
After adding mash-out water, temp was 165F.
After adding sparge water, temp was 168F.
0.9 gallons extra left in keggie; a gallon heavy (bad evaporation rate estimate).
A lot of krausen when racking to secondary; spooned it off the top.
Also seemed like fairly active fermentation still going on (bubbles).
I racked anyways on top of 2.5 oz hops and carefully mixed them in.
After sealing and securing the airlock, huge CO2 escape!
Steady fermentation (airlock bubble every 2 seconds).
At racking, 2.2% potential ABV; 4.7% ball.
At bottling, 2% potential ABV; 4% ball.
My best brew yet!