

BREWSHEET v2.3 (2011-02-26)

Batch			
Brew Name:	Back in Black IPA		
Bottle Top Code:	Calories per Pint:		232
Estimated OG:	1.068	Actual OG:	1.069
Estimated FG:	1.016	Actual FG:	1.022
Estimated IBU:	72	Actual IBU:	60
Estimated SRM:	44	Actual SRM:	47
Brew Date:	08/21/11	Collected (gal):	5.40
Rack Date:	09/13/11	Racked (gal):	5.00
Bottle Date:	09/13/11	Bottled (gal):	5.00

BJCP Style Guidelines	
Style:	Cascadian Dark Ale
Code:	
OG:	1.060-1.075
FG:	1.008-1.016
IBU:	60.0-90.0
SRM:	30.0-40.0
ABV:	
CO2:	1.5-2.3

Inventory	
Bottles:	
Gallons:	
Date Checked:	

Efficiency	
Brewhouse:	70%
Batch Size:	71%
Into Boiler:	70%
Into Fermenter:	70%

Yeast Strain	
Yeast Strain:	White Labs WLP001 (California Ale)
Type:	California Ale
Attenuation (%):	73-80%
Actual Attenuation (%):	69%
Fermentation Temp (F):	68-73F
Flocculation:	medium

Yeast Amounts	
Cell Count (billions):	282
Vials (White Labs/Wyeast):	2.4
Dry Yeast (g):	14
Starter Volume (mL):	3500
DME Required (oz):	12.25
Vials Required (w/ Starter):	1.0

ON BREW DAY	
Heat 5 gallons of strike water to 172F	
Add grain and mash at 155F for 60 minutes	
Mash-out with 2.18 gallons at 210F, mix and hold for 10 minutes	
Vorlauf and collect first runnings (approx. 4.93 gallons)	
Add 5.23 gallons at 181F to lautur tun and sparge	
Vorlauf and collect second runnings (approx. 5.23 gallons)	
Boil for a total of 120 minutes with the following hop schedule:	

Gravity		Collections	
Potential OG:	1.098	First Runnings (gal):	5.00
OG:	1.069	SG of First Runnings:	1.061
OG Temperature (F):	60	SG Temperature (F):	60
Corrected OG:	1.069	Corrected SG:	1.061
SG at Racking:		Second Runnings (gal):	4.30
SG Temperature (F):		SG of Second Runnings:	1.021
Corrected SG:		SG Temperature (F):	60
FG:	1.022	Corrected SG:	1.021
FG Temperature (F):	54	Estimated Preboil SG:	1.043
Corrected FG:	1.022	Preboil Volume (gal):	9.30
Estimated ABV (%):	6.8%	SG of Preboil Volume:	1.044
Actual ABV (%):	6.2%	SG Temperature (F):	60
IBU to Gravity Ratio:	0.87	Corrected SG:	1.044

Brewing			
Batch Size (gal):	6.00	Estimated First Runnings (gal):	4.93
Total Grain Weight (lbs):	16.00	Desired Sparge Temperature (F):	170
Grain Temperature (F):	83	Sparge Water (gal):	5.23
Mash Ratio (qts/lb):	1.25	Sparge Water Temperature (F):	181
Mash/Lauter Deadspace (gal):	0.25	Estimated Preboil Volume (gal):	10.15
Total Water Needed (gal):	12.40	Boil Time (min):	120
Desired Mash Temperature (F):	155	Evaporation Rate (gal/hr):	1.70
Strike Water (gal):	5.00	Estimated Evaporation Loss (gal):	3.40
Strike Temperature (F):	172	Trub Loss (gal):	0.75
Grain Absorption (gal):	2.00	Volume Left in Kettle (gal):	0.00
Mash-out Temperature (F):	155	Actual Evaporation Rate (gal/hr):	1.58
Mash-out Water (gal):	2.18	Actual Evaporation Loss (gal):	3.15

Diacetyl Rest		Carbonation	
Target Fermentation Completion:		CO2 Volume:	1.90
Target SG for Diacetyl Rest:		Bottling Temperature (F):	
		Priming Sugar (oz):	
		DME (oz):	
		Forced Carbonation (lbs):	

Fermentation	
CO2 Released During Fermentation (g):	957.84

Grain	Pounds	Potential	SG Share	Color	% Bill
Maris Otter Malt	12.13	1.038	0.054	4.0	75.78%
De-bittered black malt	1.63	1.030	0.006	413.0	10.16%
Caramel/Crystal 60L	1.38	1.034	0.005	60.0	8.59%
Caramel/Crystal 75L	0.25	1.034	0.001	75.0	1.56%
Carapils/Dextrine	0.63	1.033	0.002	2.0	3.91%

Hop	Alpha %	Ounces	Boil Time	IBU	% Bill
Centennial	8.3%	1.50	fwh	36.5	11.11%
Cascade	5.3%	1.25	20	9.8	9.26%
Centennial	8.3%	1.00	20	12.3	7.41%
Cascade	5.3%	1.25	5	3.2	9.26%
Columbus	14.5%	1.50	5	10.6	11.11%
Cascade	5.3%	2.00	0	0.0	14.81%
Columbus	14.5%	1.00	0	0.0	7.41%
Cascade	5.3%	1.00	dry	0.0	7.41%
Columbus	14.5%	1.00	dry	0.0	7.41%
Centennial	8.3%	1.00	dry	0.0	7.41%
Simcoe	11.8%	1.00	dry	0.0	7.41%

Notes	
Strike: 7.32 gal (~1.83 mash ratio); sparge: 4.19 gal.	Ambient temp is 88F with 59% humidity.
Increased boil time a bit to hit target batch size (and OG).	
9/4: dry hopped	
9/13: nice hop aroma and flavor; but the roast comes through in both!	

Summary	
Back in Black IPA	
Batch Size: 6.00 gal (10.15 gal preboil)	
Estimated OG: 1.068 SG (actual: 1.069 SG)	
Estimated FG: 1.016 SG (actual: 1.022 SG)	
Estimated IBUs: 72 (Finseth; actual: 60)	
Estimated Color: 44 SRM (actual: 47 SRM)	
Brewhouse Efficiency: 70% (actual: 71%)	
Boil Time: 120 minutes	

Grains:	
12.13#	Maris Otter Malt (4.0L) (75.78%)
1.63#	De-bittered black malt (413.0L) (10.16%)
1.38#	Caramel/Crystal 60L (60.0L) (8.59%)
0.25#	Caramel/Crystal 75L (75.0L) (1.56%)
0.63#	Carapils/Dextrine (2.0L) (3.91%)

Hops:	
1.50 oz	Centennial (8.3%) @fwh
1.25 oz	Cascade (5.3%) @20 min
1.00 oz	Centennial (8.3%) @20 min
1.25 oz	Cascade (5.3%) @5 min
1.50 oz	Columbus (14.5%) @5 min
2.00 oz	Cascade (5.3%) @0 min
1.00 oz	Columbus (14.5%) @0 min
1.00 oz	Cascade (5.3%) (dry hop)
1.00 oz	Columbus (14.5%) (dry hop)
1.00 oz	Centennial (8.3%) (dry hop)
1.00 oz	Simcoe (11.8%) (dry hop)

Yeast:	
White Labs WLP001 (California Ale)	
Mash/Sparge Schedule:	
Single Infusion, 155F; Batch Sparge	
Mash for 60 min at 155F w/ 5.00 gal of water at 172F	
Mashout w/ 2.17 gal of water at 210F; hold for 10 min	
Batch sparge w/ 5.23 gal of water at 181F; hold for 10 min	
Fermentation Schedule:	
Primary Fermentation: 23 days @66F	
Secondary Fermentation: 0 days @72F	

User Variables	
12 oz. Bottles Required:	51
Primary Fermentation Temp. (F):	66
Secondary Fermentation Temp (F):	72
FNWV IBU Factor (%):	10%
Strike Temperature Factor (F):	5
Sparge Temperature Factor (F):	3
Mash Time (min):	60
Specific Gravity (Brix):	17.7
Specific Gravity (SG):	1.069