

BREWSHEET v2.3 (2011-02-26)

Batch			
Brew Name:	Hakuna Matata Pale Ale		
Bottle Top Code:	Calories per Pint:		177
Estimated OG:	1.055	Actual OG:	1.053
Estimated FG:	1.013	Actual FG:	1.015
Estimated IBU:	34	Actual IBU:	35
Estimated SRM:		Actual SRM:	8
Brew Date:	05/15/11	Collected (gal):	5.50
Rack Date:	06/12/11	Racked (gal):	5.00
Bottle Date:	06/12/11	Bottled (gal):	5.00

BJCP Style Guidelines	
Style:	American Pale Ale
Code:	10A
OG:	1.045-1.060
FG:	1.010-1.015
IBU:	30.0-45.0
SRM:	5.0-14.0
ABV:	4.5-6.0%
CO2:	2.2-2.7

Inventory	
Bottles:	
Gallons:	
Date Checked:	

Efficiency	
Brewhouse:	70%
Batch Size:	67%
Into Boiler:	78%
Into Fermenter:	67%

Yeast Strain	
Yeast Strain:	White Labs WLP001 (California Ale)
Type:	California Ale
Attenuation (%):	73-80%
Actual Attenuation (%):	72%
Fermentation Temp (F):	68-73F
Flocculation:	medium

Yeast Amounts	
Cell Count (billions):	232
Vials (White Labs/Wyeast):	2.0
Dry Yeast (g):	12
Starter Volume (mL):	2750
DME Required (oz):	9.63
Vials Required (w/ Starter):	1.0

ON BREW DAY	
Heat 4.14 gallons of strike water to 173F	
Add grain and mash at 152F for 60 minutes	
Mash-out with 2.16 gallons at 210F, mix and hold for 10 minutes	
Vorlauf and collect first runnings (approx. 4.4 gallons)	
Add 4.93 gallons at 183F to lautur tun and sparge	
Vorlauf and collect second runnings (approx. 4.93 gallons)	
Boil for a total of 90 minutes with the following hop schedule:	
0.5 oz. Magnum (GR) @60 minute(s)	
0.5 oz. Perle (GR) @60 minute(s)	
1.5 oz. Cascade @10 minute(s)	
2 oz. Cascade @0 minute(s)	

Summary	
Hakuna Matata Pale Ale	

Batch Size: 6.00 gal (9.33 gal preboil)	
Estimated OG: 1.055 SG (actual: 1.053 SG)	
Estimated FG: 1.013 SG (actual: 1.015 SG)	
Estimated IBUs: 34 (Finseth; actual: 35)	
Estimated Color: 9 SRM (actual: 9 SRM)	
Brewhouse Efficiency: 70% (actual: 67%)	
Boil Time: 90 minutes	
Grains:	
11.75# Northwestern Pale Ale malt (2.8L) (88.68%)	
1.50# British carastan (34.0L) (11.32%)	

Grain	Pounds	Potential	SG Share	Color	% Bill
Northwestern Pale Ale malt	11.75	1.036	0.049	2.8	88.68%
British carastan	1.50	1.035	0.006	34.0	11.32%

Brewing		
Batch Size (gal):	6.00	Estimated First Runnings (gal): 4.40
Total Grain Weight (lbs):	13.25	Desired Sparge Temperature (F): 170
Grain Temperature (F):	73	Sparge Water (gal): 4.93
Mash Ratio (qts/lb):	1.25	Sparge Water Temperature (F): 183
Mash/Lauter Deadspace (gal):	0.25	Estimated Preboil Volume (gal): 9.33
Total Water Needed (gal):	11.23	Boil Time (min): 90
Desired Mash Temperature (F):	152	Evaporation Rate (gal/hr): 1.72
Strike Water (gal):	4.14	Estimated Evaporation Loss (gal): 2.58
Strike Temperature (F):	173	Trub Loss (gal): 0.75
Grain Absorption (gal):	1.86	Volume Left in Kettle (gal): 0.50
Mash-out Temperature (F):	152	Actual Evaporation Rate (gal/hr): 1.82
Mash-out Water (gal):	2.16	Actual Evaporation Loss (gal): 2.43

Hop	Alpha %	Ounces	Boil Time	IBU	% Bill
Magnum (GR)	12.5%	0.50	60	17.2	7.69%
Perle (GR)	6.7%	0.50	60	9.2	7.69%
Cascade	5.3%	1.50	10	7.9	23.08%
Cascade	5.3%	2.00	0	0.0	30.77%
Cascade	5.3%	2.00	dry	0.0	30.77%

Gravity		Collections	
Potential OG:	1.079	First Runnings (gal):	3.85
OG:	1.053	SG of First Runnings:	1.068
OG Temperature (F):	60	SG Temperature (F):	60
Corrected OG:	1.053	Corrected SG:	1.068
SG at Racking:		Second Runnings (gal):	5.33
SG Temperature (F):		SG of Second Runnings:	1.024
Corrected SG:		SG Temperature (F):	60
FG:	1.015	Corrected SG:	1.024
FG Temperature (F):	58	Estimated Preboil SG:	1.043
Corrected FG:	1.015	Preboil Volume (gal):	9.18
Potential ABV (%):	7.3%	SG of Preboil Volume:	1.040
Actual ABV (%):	5.0%	SG Temperature (F):	60
IBU to Gravity Ratio:	0.66	Corrected SG:	1.040

Diacetyl Rest		Carbonation	
Target Fermentation Completion:		CO2 Volume:	2.45
Target SG for Diacetyl Rest:		Bottling Temperature (F):	
		Priming Sugar (oz):	
		DME (oz):	
Fermentation		Forced Carbonation (lbs):	
CO2 Released During Fermentation (g):	785.21		

Notes	
No starter made since this brew was done spontaneously; pitched single vial.	
A little low on mashout; for some reason it didn't drain all the way...	
6/3: added dry hops to primary	
6/12: oh my! I think this beer will kick ass!	

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):	8
Sparge Temperature Factor (F):	5
Mash Time (min):	60
Specific Gravity (Brix):	13.6
Specific Gravity (SG):	1.053

Yeast:	
White Labs WLP001 (California Ale)	
Mash/Sparge Schedule:	
Single Infusion, 152F; Batch Sparge	
Mash for 60 min at 152F w/ 4.14 gal of water at 173F	
Mashout w/ 2.16 gal of water at 210F; hold for 10 min	
Batch sparge w/ 4.93 gal of water at 183F; hold for 10 min	
Fermentation Schedule:	
Primary Fermentation: 28 days @66F	
Secondary Fermentation: 0 days @72F	