

BREWSHEET v2.5 (2011-11-13)

Batch			
Brew Name:	Hakuna Matata Pale Ale		
Bottle Top Code:	Calories per Pint:		183
Estimated OG:	1.055	Actual OG:	1.055
Estimated FG:	1.013	Actual FG:	1.013
Estimated IBU:	35	Actual IBU:	35
Estimated SRM:		Actual SRM:	8
Brew Date:	11/28/11	Collected (gal):	11.00
Rack Date:	12/21/11	Racked (gal):	10.00
Bottle Date:	12/21/11	Bottled (gal):	10.00

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:	70%
Into Boiler:	73%
Into Fermenter:	70%

Yeast Strain	
Yeast Strain:	White Labs WLP001 (California Ale)
Type:	California Ale
Attenuation (%):	73-80%
Actual Attenuation (%):	76%
Fermentation Temp (F):	68-73F
Flocculation:	medium

Summary	
<b>Hakuna Matata Pale Ale</b>	
Batch Size: 11.00 gal (13.44 gal preboil)	
Estimated OG: 1.055 SG (actual: 1.055 SG)	
Estimated FG: 1.013 SG (actual: 1.013 SG)	
Estimated IBUs: 35 (Finseth; actual: 35)	
Estimated Color: 9 SRM (actual: 9 SRM)	
Brewhouse Efficiency: 70% (actual: 70%)	
Boil Time: 60 minutes	

Grain	Pounds	Potential	SG Share	Color	% Bill
Pale Malt (2-Row) US	18.75	1.036	0.043	2.0	74.70%
Northwestern Pale Ale malt	1.75	1.036	0.004	2.8	6.97%
British carastan	2.80	1.035	0.006	34.0	11.16%
Victory Malt	0.80	1.034	0.002	25.0	3.19%
Rice Hulls	1.00	1.000	0.000	0.0	3.98%

Brewing		
Batch Size (gal):	11.00	Estimated First Runnings (gal): 8.32
Total Grain Weight (lbs):	25.10	Desired Sparge Temperature (F): 170
Grain Temperature (F):	66	Sparge Water (gal): 5.12
Mash Ratio (qts/lb):	1.25	Sparge Water Temperature (F): 189
Mash/Lauter Deadspace (gal):	0.25	Estimated Preboil Volume (gal): 13.44
Total Water Needed (gal):	16.83	Boil Time (min): 60
Desired Mash Temperature (F):	153	Evaporation Rate (gal/hr): 1.69
Strike Water (gal):	7.84	Estimated Evaporation Loss (gal): 1.69
Strike Temperature (F):	174	Trub Loss (gal): 0.75
Grain Absorption (gal):	3.14	Volume Left in Kettle (gal): 0.00
Mash-out Temperature (F):	153	Actual Evaporation Rate (gal/hr): 1.69
Mash-out Water (gal):	3.87	Actual Evaporation Loss (gal): 1.69

Yeast Amounts	
Cell Count (billions):	421
Vials (White Labs/Wyeast):	3.6
Dry Yeast (g):	21
Starter Volume (mL):	2500
DME Required (oz):	8.75
Vials Required (w/ Starter):	2.0

Grains:	
18.75#	Pale Malt (2-Row) US (2.0L) (74.70%)
1.75#	Northwestern Pale Ale malt (2.8L) (6.97%)
2.80#	British carastan (34.0L) (11.16%)
0.80#	Victory Malt (25.0L) (3.19%)
1.00#	Rice Hulls (0.0L) (3.98%)

Hop	Alpha %	Ounces	Boil Time	IBU	% Bill
Magnum (GR)	12.5%	1.00	60	18.8	11.36%
Perle (GR)	6.7%	0.80	60	8.1	9.09%
Cascade	5.5%	2.00	15	8.2	22.73%
Cascade	5.5%	2.00	0	0.0	22.73%
Cascade	5.5%	3.00	dry	0.0	34.09%

Gravity		Collections	
Potential OG:	1.078	First Runnings (gal):	6.90
OG:	1.055	SG of First Runnings:	1.065
OG Temperature (F):	60	SG Temperature (F):	60
Corrected OG:	1.055	Corrected SG:	1.065
SG at Racking:		Second Runnings (gal):	6.54
SG Temperature (F):		SG of Second Runnings:	1.027
Corrected SG:		SG Temperature (F):	60
FG:	1.014	Corrected SG:	1.028
FG Temperature (F):	49	Estimated Preboil SG:	1.047
Corrected FG:	1.013	Preboil Volume (gal):	13.44
Estimated ABV (%):	5.9%	SG of Preboil Volume:	1.047
Actual ABV (%):	5.9%	SG Temperature (F):	60
IBU to Gravity Ratio:	0.63	Corrected SG:	1.047

ON BREW DAY	
Heat 7.84 gallons of strike water to 174F	
Add grain and mash at 153F for 60 minutes	
Mash-out with 3.87 gallons at 210F, mix and hold for 10 minutes	
Vorlauf and collect first runnings (approx. 8.32 gallons)	
Add 5.12 gallons at 189F to lautur tun and sparge	
Vorlauf and collect second runnings (approx. 5.12 gallons)	
Boil for a total of 60 minutes with the following hop schedule:	
1 oz. Magnum (GR) @60 minute(s)	
0.8 oz. Perle (GR) @60 minute(s)	
2 oz. Cascade @15 minute(s)	
2 oz. Cascade @0 minute(s)	

Hops:	
1.00 oz	Magnum (GR) (12.5%) @60 min
0.80 oz	Perle (GR) (6.7%) @60 min
2.00 oz	Cascade (5.5%) @15 min
2.00 oz	Cascade (5.5%) @0 min
3.00 oz	Cascade (5.5%) (dry hop)

  

Yeast:	
White Labs WLP001 (California Ale)	
2500 mL starter; ferment, crash cool and decant	

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

**Notes**

Strike: 10.36 gal (~1.65 mash ratio); sparge: 7.22 gal.  
 11/28: Preboil was 1.047 SG; T-50 in boil, 1.050 SG.  
 T-31 in boil, no change (1.050 SG); T-23 in boil, 1.054 SG.  
 1.055 SG after the boil on the hot side, but 1.051 SG on the cold side.  
 We determined it was due to water/sanitizing solution in the black part of the dropper.  
 We confirmed by obtaining a correct SG (1.055) after shaking the hell out of it after sanitizing.  
 12/12: dry hopped; 1.014 SG.  
 12/18: cold crashed.  
 12/21: kegged; this may be the best version yet!  
 Nice and hoppy with good level of bitterness and maltness.  
 Hit the OG/SG dead on!

1/4: this one turned out perfect!  
 Nice malty aroma with a peppery hop aroma; flavor is spot on with crisp bitterness and malt undertones.  
 Hop flavor is prominent with a very slight residual sweetness which may actually be from the hops.

User Variables	
12 oz. Bottles Required:	102
Primary Fermentation Temp. (F):	66
Secondary Fermentation Temp (F):	72
FNW/IBU Factor (%):	10%
Strike Temperature Factor (F):	7
Sparge Temperature Factor (F):	4
Mash Time (min):	60
Specific Gravity (Brix):	14.2
Specific Gravity (SG):	1.055

**Mash/Sparge Schedule:**  
 Single Infusion, 153F, 60 min; Batch Sparge

**Fermentation Schedule:**  
 Primary Fermentation: 23 days @66F  
 Secondary Fermentation: 0 days @72F